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Assessing the HIV/AIDS Knowledge, Attitudes, and Behaviors of Representative Football Student-Athletes in the Southern Conference

Jamie N. Whited
University of Tennessee - Knoxville

To the Graduate Council:

I am submitting herewith a dissertation written by Jamie N. Whited entitled "Assessing the HIV/AIDS Knowledge, Attitudes, and Behaviors of Representative Football Student-Athletes in the Southern Conference." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Education.

Bill C. Wallace, Major Professor

We have read this dissertation and recommend its acceptance:

Robert Kirk, Jack Ellison, Ralph Jones, Robert Pursley

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

To the Graduate Council:

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Accepted for the Council:

Associate Vice Chancellor and
Dean of The Graduate School

ASSESSING THE HIV/AIDS KNOWLEDGE, ATTITUDES, AND BEHAVIORS OF REPRESENTATIVE FOOTBALL STUDENT-ATHLETES IN THE SOUTHEASTERN CONFERENCE

A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville

Jamie Naughright Whited
August 1996

DEDICATION

This study is dedicated to the many sufferers of the plague and its cousins–racism, sexism, and homophobia–who silently and courageously deal with the anguish, pain, and isolation.

This study is dedicated to James Russell Naughright, March 31, 1958-September 7, 1995, who lived and died by the sword.

It is also dedicated to Tim Kerin in admiration for his loyalty displayed to his athletes, the community, the institution, the empire, and the legend.

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To Arthur Ashe, for his philosophy that stands as my testament today that "to be different is how to make a difference."

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ABSTRACT

The primary purpose of this investigation was to assess the current level of knowledge, attitudes, and behaviors related to HIV infection and AIDS among representative freshmen and senior football student-athletes from institutions in the Southeastern Conference of the NCAA. The secondary purpose was to assess student-athletes' sport-specific attitudes and knowledge source related to HIV infections and AIDS.

Based on the literature review and input from professionals in the field of sports medicine and AIDS education, a survey instrument was selected. The instrument was divided into six parts. The first part, Modified DiClemente AIDS Knowledge Survey, was a true-and-false scale (31 items), designed to examine knowledge and misconceptions about HIV/AIDS. The second part, AIDS-Related Attitudes Survey, was a Likert-type scale (21 items) designed to assess attitudes toward AIDS patients, dating and sexual practices, and AIDS prevention and treatment. The third part, AIDS-Related Behavior Survey, was a Likert-type scale (18 items) designed to assess behavior related to AIDS and its prevention, including dating and sexual practices and information seeking-behavior. The fourth part, Demographic Data, was designed to gather data regarding the respondents' characteristics on academic year, age, ethnicity, and marital status. The fifth part, Sport-Specific Attitude Information, was designed to gather additional data regarding attitudes and activities in the college athletics environment (5 items). Finally, the sixth part, Knowledge Source Information, was also designed to gather additional data pertaining to the sources of HIV/AIDS education received by the participants (6 items).

The population of interest consisted of 232 football student-athletes (138 freshmen and 93 seniors) enrolled at seven representative colleges and universities from the Southeastern Conference.

Three mailings and two rounds of facsimile correspondence yielded an institutional response rate of 58.3%. Among all institutions that responded, 232 student-athletes participated in the study (N=720). Frequency counts and percentages for character-valued variables for the overall population and subheadings, as well as cross-tabulations and measures for association utilizing Demographic Data (academic year, ethnicity, and university) were determined utilizing Chi-square analysis (SPSS, Version 7.0).

The great majority of the student-athletes had moderate to high levels of knowledge concerning HIV infection and AIDS, with >90% of the sample answering twenty-four out of the thirty-one total items correctly and a 90.7% average for all six subheadings. There were no significant differences between freshmen and seniors concerning level of knowledge. Ethnicity calculations for knowledge determined that white student-athletes were more likely to answer correctly about four out of six subheadings. University respondents for knowledge differed on responses to four items within three subheadings.

The attitude levels of the student-athletes concerning HIV infection and AIDS were moderately positive overall, with a attitude percent of 80.2% for the four subheadings. Perceived AIDS-related attitudes among football student-athletes indicated one significant difference related to academic year concerning seniors concern about HIV infections. Many significant differences related to ethnicity were indicated within the

quarantine/isolation, magnitude of problem/concern, and sex/safer sex items. Significant differences differed from respondents at different universities were noted on the same above three subheadings.

The behavior levels of student-athletes concerning efforts to learn more and social and work related relationships were average to poor overall, with >70% of the sample answering thirteen out of the eighteen total items favorable. Perceived AIDS-related behavior among football student-athletes indicated that seniors tended to acknowledge discussions about AIDS with their friends. Ethnicity differences among respondents were within the social and work-related relationship subheading. African-American athletes answered differently on limiting, changing, and abstaining from sexual activity and behavior if they had been exposed to the virus. Communication among partners by African American student-athletes differed from that by white student-athletes. Respondents from different universities also differed on social and work-related relationship items.

The majority of the student-athletes agreed with the following sport-specific attitudes: participation exclusion of HIV-positive student-athletes, mandatory HIV testing of student-athletes, disclosure of an HIV-positive student-athlete's status, and condom dispensing in the training room. No significant differences existed relative to academic year. Sport-specific attitudes of football student-athletes differed relative to ethnicity and university. White athletes were more likely to agree with screening and disclosing student-athletes' HIV status. African-American student-athletes supported condom dispensing in the training room.

Finally, the majority of student-athletes reported that they had been taught about HIV infection or AIDS in high school, had learned most about HIV/AIDS from mass-media sources, turn to outside community resources for support, and preferred to learn about HIV/AIDS from media sources. Only one-half of the student-athletes reported that they had been taught about HIV infection or AIDS in college. Tests for associations between responses to the knowledge source items indicated differences relative to academic year and ethnicity in reference to high school and college AIDS education. Respondents from different universities differed on when they were taught about AIDS and from source they learned the most.

In view of the findings, the following conclusions were drawn:

1. Most student-athletes have a moderate to high level of knowledge concerning HIV infection and AIDS.

2. Most student-athletes have a positive attitude towards concern and reported changes in sexual behavior to reduce contraction and transmission of HIV.

3. Most student-athletes, however, have average to poor behaviors toward making changes in social and work-related relationships and in efforts to learn more about HIV infection and AIDS.

4. The majority of the student-athletes, with a lack of fact-based, non-judgmental information and a lack of information on legal aspects of HIV/AIDS favored participation exclusion of HIV-positive student-athletes, mandatory athletic department HIV testing, and disclosure of an HIV-positive student-athlete's status. The majority of student-athletes favored training room distribution of condoms.

5. The majority of student-athletes indicated a need for more HIV/AIDS education among student-athletes, especially by medical resources, since HIV/AIDS education was only moderately provided on the high school level and delinquent on the

college level especially by medical resources. Mass-media type sources were the most readily used and were preferred by student-athletes to obtain information about HIV infection and AIDS.

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CHAPTER I

INTRODUCTION

The Centers for Disease Control recently summarized the change in HIV trends by stating that "the face of AIDS in America is changing. It is a younger face than it used to be. It is more likely to be a face of color than it used to be." (CDC, 1995) According to Healthy People 2000, before 1983, there were a total of 800 reported cases of AIDS in the United States. This disease has changed its course without any form of exclusion or discrimination. Over a decade later, AIDS has become the leading cause of death among men 25-44 years of age and the third biggest killer of women in that age group (CDC, 1995).

It seems that AIDS is following the classic pattern of diseases of the past, like the Spanish influenza epidemic of 1918, which killed 400,000 Americans who had an average age of thirty-three years (Black, 1985). Like all fatal diseases of the past, AIDS tends to strike adolescents and the healthy young adults first and hardest (Black, 1985). AIDS has expanded significantly in rural areas, as well as in metropolitan areas, among male adults and adolescents. Trends in HIV infection and AIDS among young men who have sex with other men (MSM), have changed drastically among gay African-Americans, particularly in the South. According to the September 1995 issue of CDC HIV/AIDS Prevention, cases have increased by 79 percent among African-American MSM's in the Southern rural areas and by 67 percent in Southern cities of a population 250-499,000 (CDC, 1995). Current epidemiological data has shown that approximately one in 250 U.S. adults is infected with HIV (Employee Benefit Plan Review, 1993). According to a CDC July 1992 HIV/AIDS Surveillance

Report, CDC experts "estimate that one in one hundred adult males between ages of twenty and forty-nine is seropositive."

According to a study supported by the National Collegiate Athletic Association, titled "Survey of NCAA Institutions Concerning HIV/AIDS Policies and Universal Precautions," the estimated HIV infection among NCAA athletes translates to 216 cases (McGrew, 1993), using the general age group (18-24 year olds), a prevalence of 0.08 percent (which is a relatively low percent compared to other studies), and 270,000, the number of 1991-1992 NCAA athletes. Other studies have cited HIV seroprevelance for college men as one per two hundred, since the prevalence of HIV infection among athletes is not known. (Brown, 1995). On a broader perspective, general college student populations presently reflect a seropositive rate of approximately 0.2 percent, or one in five hundred students (Seltzer, 1993). Studies estimate HIV seroprevelance among the thirteen million college students in the United States, mainly adolescents and young adults, could be as high as one to two per hundred (Schneider, 1994). The percentage of intercollegiate athletes who are HIV positive does not appear in the literature at this time.

According to the National Research Council, 33 percent of fifteen-year-old boys and 21 percent of sixteen-year-old girls reported having had sexual intercourse. Current statistics show eight million incidences of sexually transmitted diseases each year among people under the age of twenty-five (Tennessee Responds to AIDS, 1996). The National Research Council affirms "that substantial risk-taking is occurring within this population" (NRC, 1990). Furthermore, there is growing evidence that genital lesions increase the likelihood of HIV transmission during sexual contact (NRC, 1990). Drug use via injection by adolescents has shown a rate of one in ten among some segments of

the teen population (NRC,1990). Teenage adolescents who live in high risk environments appear to report high rates of drug use and multiple sex partners. In these unfavorable conditions, HIV levels indicate an increased rate of infection, possibly due to lack of education, insurance, and medical care.

Many post-adolescent children, primarily those in the 11th and 12th grades, are being educated in school districts which do not require HIV and health education (CDC, 1992). One of the five Critical Success Factors of CDC's HIV Strategic Plan for the Prevention of HIV Infection is to prevent the occurrence of risky behaviors among students. CDC predicted that there will be a fifteen percent increase in the proportion of college and universities that provide HIV education for students and staff (CDC, 1992). The response to "Magic" Johnson's November 1991 announcement about his HIV infection emphasized the increased need for HIV information and education (CDC, 1992). In 1992, the CDC implemented an important educational program for the National Basketball Association Players Association, an early example of a program specifically targeted for an athletic population (CDC, 1992).

Evidence of high risk behavior by SEC athletes on and off campus has appeared regularly in the media over the past five years (Lundy, 1996). In a 1990 episode, three SEC football players were accused of raping a female student in an athletic dorm (Weir, 1995). Another episode was reported in January 1993, in which fifteen SEC football players engaged in sexual activity with a prostitute. Most recently, a SEC student-athlete was charged with raping and sodomizing a seventeen year-old girl; charges were later dismissed (Weir, 1995).

It is obvious that during this coming decade we must find alternative methods to prevent the spread of HIV. The authors of AIDS: The Second Decade expressed their concern to future health educators by stating that "Commitment must be made and maintained to forestall the bleak prospect of a third decade of this epidemic that is little different from the last" (Miller, 1990). Dr. Jonathan Mann said in 1992 about the spread of HIV, "Geographic boundaries cannot protect against HIV...The question today is not 'if' HIV will come, but only 'when.'" Health educators must inform their youthful populations of the consequences of risk-taking behaviors; and for those doing a sexual high-wire act, medicine is not always a safety net (Black, 1985).

Statement of the Problem

The primary purpose of this investigation was to assess the current level of knowledge, attitudes, and behaviors related to HIV infection and AIDS among representative freshmen and senior football student-athletes from institutions in the Southeastern Conference of the NCAA. The secondary purpose was to assess student-athletes' sport-specific attitudes and knowledge source related to HIV infections and AIDS.

Research Questions

The following research questions were investigated:

1. What is the current level of knowledge among student-athletes, as measured by the modified DiClemente (1986) AIDS Survey, concerning HIV infection and AIDS?

2. What perceived AIDS-related attitudes, as measured by the AIDS-Related Attitudes Instrument, are prevalent among Southeastern Conference football student-athletes?

3. What perceived AIDS-related behaviors, as measured by the AIDS-Related Behavior Instrument, are prevalent among Southeastern Conference football student-athletes?

4. What are the sport-specific attitudes of Southeastern Conference football student-athletes in reference to HIV Infection and AIDS?

5. Where have respondents acquired their information about AIDS?

Need for the Study

Sports medicine staffs and health practitioners are frustrated by athletes' continued ignorance concerning competing against individuals who are HIV-positive. Many doctors are baffled as to why athletes are more worried about the risk of infection during competition then about having a sexual encounter with someone they barely know (Herwig, 1992). Athletes are obsessed with feeling immortal and immune to all injuries, including immunity from HIV. AIDS experts agree that the risk of HIV transmission is low. However, compared to the general college population, promiscuous sexual activity, drug abuse, and high profile pressures and exposures among student-athletes could increase the number of HIV-positive athletes that will appear in the forth coming years (Hamel, 1992).

Dr. Rollins M. Perkins, Chief of Sports Medicine and Team Physician for Southern Illinois University, agrees that athletes spend an entire generation believing that having multiple sex partners is okay. He concludes that additional education will be needed in order to alter this programmed behavior. Statistically, it is possible for the sports world to exist with a significant number of athletes who are sexually active both homosexually, bisexually, and heterosexually (Calabrese, 1989).

The NCAA Committee on Competitive Safeguards and Medical Aspects of Sports developed a policy statement titled "AIDS and Intercollegiate Athletes." This document states that "It is imperative that education and prevention be emphasized to student-athletes in specific programs designed to address these issues" (NCAA, 1991). Since, AIDS is presently impossible to cure, the control must lie with education to prevent the disease's occurrence among the populations at risk. The U.S. Olympic Committee's senior manager for Sports Medicine commented on recent AIDS education programs in athletics by stating that "so far, AIDS education at the amateur level is zero" (Hamel, 1992).

In a research study by Cloverdale et al., these authors reported to the Fifth International Conference of AIDS that physicians are failing to educate their patients regarding AIDS prevention. The findings revealed that, even though 92 percent of the physicians felt it was their responsibility to inform their patients about AIDS education, only eleven percent were following through with the program. According to this study, only one-third of the physicians initiated discussions with their parents about sexual habits and life styles. This is due to their personal discomfort with these issues (Cloverdale et al., 1990).

Basic Assumptions

For this study, the following assumptions were made:

1. The head athletic trainers within the Southeastern Conference would be cooperative in the administration of the tests to the student-athletes.

2. The responses of the athletes in the SEC on the AIDS Knowledge, AIDS-Related Attitudes, and AIDS-Related Behaviors pencil and paper test were honest and accurate.

3. The AIDS Knowledge, AIDS-Related Attitudes, and AIDS-Related Behaviors Tests are reliable and valid instruments for measuring AIDS knowledge, attitudes, and behaviors.

Delimitations

The delimitations of this investigation were:

1. Information gathering was delimited to AIDS knowledge, attitudes, and behaviors.

2. The study was delimited to football student-athletes of colleges and universities in the Southeastern Conference of the NCAA.

Limitations

The limitations of this investigation were:

1. The willingness of those participating to answer the questions truthfully.

2. The ability of each head athletic trainer to administer the instruments as instructed during their conference meeting, in which an explanation of the policies and procedures of administration was given.

Definition of Terms

The following key terms were operationally defined and utilized throughout the study:

AIDS (Acquired Immunodeficiency Syndrome). A fatal communicable disease that occurs in individuals with weakened immune systems due to HIV infection. HIV (a universally used abbreviation) is the retrovirus recognized by medical and health professionals as the cause of AIDS.

Athletic Trainer. A certified health professional whose major functions are injury prevention and primary health caregiver to student-athletes.

Attitudes. The strength and degree of feelings and responses regarding the topic at hand as measured by the AIDS-Related Attitude Instrument.

Behaviors. The sexual and social activity and concept of patterns regarding the topic at hand as measured by the AIDS-Related Behavior Instrument.

Football Student-Athletes. An intercollegiate student-athlete participating in the sport of football either on scholarship or non-scholarship status as defined by the host institution.

Knowledge. Extensive or basic understanding of the topic at hand as measured by modified DiClemente (1986) AIDS Survey.

Obtained knowledge. The importance and source of the extensive or basic knowledge obtained or preferred regarding the topic at hand as measured by the Obtained Knowledge Section.

SEC (Southeastern Conference). An abbreviation used for a Division 1 athletic conference of the NCAA containing teams from 12 universities and colleges.

Sport-Specific Attitudes. The strength and degree of feelings and responses, related to sport-specific issues, regarding the topic at hand as measured by the Sport-Specific Attitudinal Section.

Summary

Although research documenting the prevalence of AIDS in athletes is limited, there exists a definite and desperate need for an investigation in this area. Researched literature is now beginning to appear. It is hoped this information will help reduce the risk and fear of AIDS acquisition in sports contests. Most athletic trainers have not felt the true impact of the HIV epidemic on a direct basis. Archaic behaviors are present among some medical staff who oppose present preventive measures. Since trainers and team physicians are in direct contact with the athletes, it is their duty as health care givers to provide the student-athletes with current reliable information regarding the transmission of the HIV virus and how student-athletes can modify their sexual behavior. Furthermore, through preventative and early invention methods, transmission of the virus could be reduced, and the quality of student-athletes' health care and athletics performance improved and enhanced.

The purpose of this study, then, was, first of all, to assess the current level of knowledge among football student-athletes concerning HIV infection and AIDS. Secondly, the perceived AIDS-related attitudes and behaviors among these student-athletes was analyzed. Finally, the sport-specific attitudes and knowledge sources of Southeastern Conference football student-athletes were examined. On the

basis of this survey's results, strategies were recommended for the purpose of improving, as needed, the knowledge level, attitudes, and behaviors related to HIV infection and AIDS among student-athletes.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Health care deliverers and health educators do not need to wait for an AIDS crisis; we are directly influenced today by this long-term disease, the greatest impact of which still lies ahead of us. Health professionals must attack this disease head on and try to restrain its spread in society through intervention strategies, educational programs, and preventative measures.

This chapter includes a review of the AIDS epidemic's advancement and impact among adolescents. The literature related to content includes the effect of AIDS in athletics. Additional athletic-related HIV/AIDS topics are briefly reviewed concerning education, transmission, mandatory HIV testing, blood-borne pathogen regulations, sexual activity among athletes, "off-the-field" behavior, athletes' lifestyles and health risks, and the role of the medical staff. Literature related in methodology includes: (1) research methodological considerations on human sexual behavior and (2) research methodological considerations on assessment of HIV/AIDS-related knowledge, risk-behaviors, and attitudes, followed by a summary of the chapter.

Although research and documentation of AIDS in athletics are limited, there exists the definite and desperate need for investigation in this area. Since the public announcement made by Magic Johnson concerning his HIV-positive test, studies are forming and focusing on the HIV variables that will reduce the risk and fear of AIDS transmission among athletes. As of 1991, literature was just beginning to appear.

AIDS in Adolescents/Young Adults

AIDS is the fifth leading cause of death in the age group 15-24 years and is first in some major metropolitan areas (CDC, 1992). According to the March 7, 1996, issue of AIDS/STD News Report, approximately 40,000 to 80,000 Americans are infected with HIV each year, and about half of these cases are persons under the age of 25, "which means 2 to 4 young people are infected with HIV every hour of every day." The number of AIDS cases identified in teenagers climbed 43 percent between July 1988 and July 1989 (Jones, 1991). The American Social Health Association reported that there are approximately eight million new sexually transmitted infections among people under age 25 each year (Tennessee Responds to AIDS, 1996). In 1992, the CDC predicted that AIDS would double the number of orphaned children within three years, from 1.8 million to 3.7 million. The CDC also predicted that over the same period of time, an additional 5.7 million adults and 1.2 million children would become infected with HIV (CDC, 1992). AIDS transmission has expanded in two major categories, male adults and adolescents. The HIV/AIDS Surveillance data by the Centers for Disease Control found that the transmission of AIDS among males 13 years of age and over, categorized according to race/ethnicity, was extremely high among Hispanics and non-Hispanic blacks who were homosexual/bisexual and/or IV drug users. The transmission mode of AIDS among females 13 years of age and over, categorized according to race/ethnicity, appears to be from IV drug use and/or heterosexual activity with IV drug users. Statistics show infection among non-Hispanic black women in this age bracket to be double that of Hispanics and non-Hispanic white women numbers (US Dept. of Health, 1990).

CDC has made significant changes in order to provide better information about HIV infection among adolescents. CDC believes that intervention efforts must be

established prior to first experience with sex. Behaviors that put adolescents at risk include sexual behaviors, drug use, and environmental factors high-risk youth. According to the National Research Council, 33 percent of 15-year-old boys and 21 percent of 16-year-old girls reported having had sexual intercourse. Statistics show an alarmingly high incidence of sexually transmitted diseases among adolescents. The National Research Council affirms "that substantial risk-taking is occurring within this population," but also "there is growing evidence that genital lesions increase the likelihood of HIV transmission during sexual contact" (NHC, 1990). Drug use among adolescents is as high as 1 in 10 in some segments of the teen population pertaining to needle use (NRC, 1990). Children who live in high risk environments report high rates of drug use and multiple sex partners. In these unfavorable conditions, HIV levels indicate an increased rate, possibly due to lack of insurance and medical care.

Studies estimate HIV seroprevelance among the 13 million college students in the United States could be as high as 1 to 2 per 100 (Schneider, 1994). Approximately 20 percent of AIDS patients are in their twenties, with estimated exposure to have occurred during their adolescent years (Weinstein, 1991). According to Ann O'Leary, author of "Predictors of Safer Sex on the College Campus: A Social Cognitive Theory Analysis," it is the college students' perceptions of vulnerability to HIV infection that cause them to be more reluctant to change their sexual behavior (O'Leary, 1992). O'Leary added that "the use of drugs and alcohol in connection with sex may also enhance the likelihood of risky behavior, perhaps through temporarily reducing perceived risk or reducing self efficacy to negotiate safer sex at the time of use" (O'Leary, 1992). With all of this information at hand, the potential of HIV infections on college campuses could spread among this high risk environment, rapidly resulting in a national epidemic.

The Centers for Disease Control are making recommendations for health educators to implement and design AIDS prevention programs for teens that are realistic in nature, with the understanding that abstinence from sex prior to marriage might be unrealistic. The National Research Committee is advising that AIDS prevention programs be designed for pre-adolescent children. Health educators must inform their young population of the consequences of risk-taking behaviors. (Black, 1985).

Literature Related in Content

A. AIDS in Athletics

Public attention was first drawn to the issue of AIDS in athletics on November 7, 1991. It was an announcement made by Earvin "Magic" Johnson, the star of professional basketball, that opened the channels for communication. He told the world that he had tested positive for HIV, the virus that causes AIDS. Since then, the late tennis star Arthur Ashe, Olympian gold medalist Greg Louganis, and heavy-weight boxer Tommy Morrison are just a few HIV-infected athletes who have come forward to emphasize the message that HIV affects everyone.

Since these announcements, recent studies have been conducted concerning HIV testing of athletes, participation in sports by HIV-infected athletes, and the practice of "Universal Precautions" by members of the athletic health care team (McGrew, 1993). "Universal Precautions" is an approach to infection control using personal protective equipment, work practice controls, regulated waste controls, and continued education methods. "According to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other blood-borne pathogens." (UTRM, 1994) One study, "Survey of NCAA

Institutions Concerning HIV/AIDS Policies and Universal Precautions," discovered that there are HIV-positive intercollegiate athletes who are competing. Twelve out of 548 surveyed institutions reported having HIV-positive student-athletes, with four of these institutions reporting diagnosed AIDS cases. Three of these institutions reported present participation in intercollegiate athletics by HIV-positive student-athletes, while one institution reported participation by an athlete diagnosed with AIDS.

Many issues concerning the development of health care delivery systems for HIV infected athletes have stirred up numerous questions, including "What do we do with athletes who wish to continue to pursue their athletic careers after testing positive?" (McKeag, 1993). McGrew results found that 92 percent of the athletic departments did not have a policy to address these issues. Additionally, with or without a set policy, three percent of the head trainers responded that there was either a restriction or an intention to restrict participation of HIV-positive student-athletes. This research, according to Douglas B. McKeag, Associate Editor of Medicine and Sciences in Sports and Exercise, highlighted the issues and different ways that colleges/universities address a new problem, presenting a spectrum from ignorance to ambivalence to overreaction (McKeag, 1993). The authors of the NCAA study recommended in conclusion that additional research be performed in the area of increased awareness, knowledge, and practice of "universal precautions" in all athletic training rooms (McGrew, 1993).

At the time of the study by McGrew, there was no information published on the prevalence of HIV infection among groups of athletes. The 1993 study did estimate that approximately 216 NCAA athletes may have been HIV infected, an estimate based on a general HIV prevalence rate of 0.08% and a population of 270,000 NCAA athletes competing during the 1991-1992 season.

B. AIDS Education in Athletics

The NCAA Committee on Competitive Safeguards and Medical Aspects of Sports has had an AIDS policy statement since April 1988. This document, titled Policy No. 20: AIDS and Intercollegiate Athletics, states that "It is imperative that education and prevention be emphasized to student-athletes in specific programs designed to address these issues" (NCAA, 1991). Since this disease is impossible to cure, control must lie with education about the disease delivered to willing populations at risk. U.S.'s Olympic Committee Senior Manager for Sports Medicine commented on the recent AIDS education programs in athletics by stating that "so far, AIDS education at the amateur level is zero" (Hamel, 1992). A study, "AIDS and Athletic Trainers: Recommendations for Athletic Training Programs," reported that 91.7 percent of student athletic trainers indicated their AIDS education was found outside of the athletic training curriculum. Lack of AIDS education within athletic settings is apparent among the heath care providers and their delivery systems to the athletes.

C. Transmission of HIV in Athletics

The United States Olympic Committee released a study in 1991 performed by Indiana University Medical staff stating that there was no documentation or findings of HIV transmission during athletic performance. The three sports that have the greatest risk of transmission are: wrestling, boxing, and tae kwon do. The secondary or moderate-risk sports were listed as basketball, field hockey, ice hockey, and soccer. However, this study concluded that "even in the sports with the greatest risk, the possibility of transmission of HIV...infection between competing athletes is remote" (NCAA, 1991).

Another study in 1992 on HIV/AIDS risk on the athletic field by NFL advisor Dr. Lawrence S. Brown Jr. and Dr. Peter Drotman of the Centers for Disease Control concluded that there was minimal risk of HIV transmission during athletic participation in football. Noting that the prevalence of HIV infection in athletes was similar to that in collegiate males (1/200), that the rate of HIV transmission reported in health-care workers (3 per 1,000 exposures of a health-care worker to a needle stick from an HIV-positive patient), and that lacerations, 12% of injuries reported, occurred during 155 games of the 1992-1993 National Football League season, the authors estimated that "the risk of on-the-field HIV transmission is well below one per one million games" (Dick, 1993). Additional support for the NFL's concept of minimal risk discussed the minimal volume of exposure as well as the amount of skin exposed. Since 90% of a football player's body is covered during competition, "the risk of skin-to-blood contacts appears to be significantly less in the NFL than in most other sports" (Brown, 1994).

The Centers for Disease Control in Atlanta have submitted recommendations concerning HIV transmission during athletic competition and in facilities such as locker rooms and mats. Additional regulations and guidelines have been established by the National Boxing Commission on reexamination of boxing rules, latex glove use, and protective head gear. Apparently, no cases have been reported of HIV transmission through the kind of direct contact that the sport of wrestling would entail.

The only reported incidence of HIV transmission in an athletic setting is a rumor that an Italian soccer player was infected on the playing field. However, this case was dismissed by experts, the International Federation of Sports Medicine and World Health Organization, stating that "the risk of getting HIV through sports participation

is almost nonexistent" (Hamel, 1992). There are a few reported cases of athletes dying from AIDS. Since the population of reported HIV-positive athletes still participating is limited, discussion about performance exclusion remains theoretical.

D. Mandatory HIV Testing

On the issue of mandatory testing of athletes for HIV, the NCAA has stated that "[because] the prevalence of infection is extremely low and the risk of transmission is thought to be low within the environment of athletics activity... routine HIV testing of student-athletes is not recommended at this time" (NCAA, 1991). On the other hand, the United States Olympic Committee guidelines extend the NCAA policies by recommending voluntary testing for all athletes in the greatest and moderate-risk sports (NCAA, 1991). However, AIDS education programs should not be replaced by an alternative such as mandatory testing.

A recent study concerning confidentiality of HIV information found that 24 of 32 athletic training curriculum directors (75%) said that they would inform their staff if an athlete was infected with HIV. With the discovery of this finding, one can see why athletes might be hesitant or fear HIV testing. One report found that 33 to 50 percent of the athletes believed to be infected with the virus did not document that information on their history form (Brubaker, 1991). According to the survey results, no form of evidence or documentation has been found pertaining to the disqualification of an HIV -positive athlete.

One study of NCAA HIV/AIDS policies reported that four percent of responding institutions (22 out of 548) were providing routine testing of student-athletes. Only two schools out of those 22 had instituted mandatory HIV testing. Ninety-eight

institutions (18%) offered HIV testing for those student-athletes who requested the test. No follow up or post-test counseling or HIV educational presentation was provided. Additionally, the study discovered that 426 (78%) of the responding institutions did not provide HIV testing within their athletic departments.

If mandatory testing were instituted, young athletes could be exposed to the chance of obtaining a false-positive test and exposure criticism. A beneficial option would be to intervene with those athletes with high risk behavior through education, counseling, and voluntary testing. Early intervention can result in earlier detection and prevention of further transmission and infections.

Exercise recommendations for HIV-infected athletes include preliminary guidelines that have been based on limited experimental data. According to the NCAA, athletes' physicians and health care providers should examine the current health status, the current HIV status, and the nature and intensity of the athlete's training when determining the level of continued play. Some studies have discovered that prolonged, strenuous exercise can decrease white blood cell counts and immune systems' responses, resulting in increased infections (Eichner, 1994). Other factors for assisting the health care provider with this decision-making process include: (1) the desires of the athlete, (2) the potential risks of infections being transmitted, and (3) the administrative and legal needs of the competitive program (Bartimole, 1995).

E. Blood-borne Pathogen Regulations

The Journal of Athletic Training reported that 85.7 percent of medical staff who participated in the study had access to gloves. Unfortunately, only 39 percent of athletics departments provided their student trainers with mouth shields. Lack of

education and lack of enforcement of the Universal Precautions were relevant in a study performed by an Ohio State professor, who found that 42.9 percent of training rooms had a special disposal container and that only 28 percent of athletic trainers were using a household bleach solution for cleaning their training rooms (Brubaker, 1991). Prevention of HIV transmission in an athletic setting through the use of latex gloves by the medical staff appears to be extremely minimal, with only 42.5 percent of respondents stating that they used gloves at least once during the school year. Obviously, the lack of education could create fear among student athletic trainers, causing one to limit his or her duties as a health care provider. Approximately 82.3 percent of student athletic trainers expressed fear of contacting HIV while performing their duties. Another astounding figure found during this study was the low percentage of athletic training curricula (18.2%) that provide insurance for HIV occupational exposure (Brubaker, 1991). Health care workers' reluctance to use preventive measures was affected by the way they were informed about what is expected of them versus what is mandatory to be performed.

Another study performed by the NCAA reported that only 62 percent of college institutions had education programs concerning "universal precautions" for their sports medicine staff (McGrew, 1993). Additionally, only 25 percent of the respondents had the "Universal Precautions" posted in their training rooms, with a 55 percent participation rate (McGrew, 1993). With all of the literature available for members of athletic training staffs, today's athletic care-givers are not taking the necessary precautions to practice proper health and hygienic procedures.

F. Sexual Activity Among Athletes

According to an article published in the Journal of Athletic Training, there appears to be no significant difference between college athletes versus non-athletes in sexual activity. Therefore, the risk of HIV infection may be no different in an athlete than a non-athlete (Brubaker, 1991). However, according to one study documented by the NCAA, "Intercollegiate athletes may be at greater risk because there may be an increased incidence of sexually transmitted diseases, increased frequency of sexual partners, and less frequent use of contraception as compared with a group of non-athletic controls" (McGrew, 1993). The Canadian Academy of Sport Medicine (CASM) responded to the question, "Am I at greater risk for sexually transmitted disease because of my involvement in sports?," by discussing how "sports-related travel may increase opportunities for sexual contact, and this may increase the chance of infection, especially when sports events are held in high-risk areas of the world [for instance, areas where blood used in transfusions is not tested for AIDS]." (CASM Journal, 1990)

Even though the sports world might be reluctant to acknowledge it, statistically athletes are sexually active homosexually and heterosexually (Calabrese, 1989). In a classic study by Kinsey *et. al*, this investigation demonstrated that 10 percent of American men 16 to 55 years old had participated in homosexual activity for at least three years during their life. Additionally, statistics suggest that most homosexual lifestyles begin during the adolescent years.

Experts are frustrated by athletes' continued ignorance about competing against individuals who are HIV-positive. Many doctors are baffled why athletes are more worried about the risk of infection during competition than about having a sexual

encounter with someone they barely know (Herwig, 1992). Athletes are obsessed with feeling immortal and immune to all injuries, including immunity from HIV. AIDS experts agree that the risk of transmission is low. Since more athletes are becoming sexually promiscuous and intravenous drug users, the rise of HIV-positive athletes will probably occur in the upcoming years (Hamel, 1992). The lack of education of athletes by physicians and trainers seems to be a contributing variable to a potential epidemic in athletics.

Many professional athletes, who travel extensively and have demonstrative fans, indulge in rampant unprotected sexual lifestyles due to a unique opportunity for sexual promiscuity. Accordingly, Leonard H. Calabrese, Head of the Section of Clinical Immunology in the Department of Rheumatic and Immunologic Disease at the Cleveland Clinic Foundation, states that "there will be many athletes who develop AIDS in the next decade, but it's the best bet you ever made that not a single one of them will ever get it playing sports" (Hamel, 1992). Dr. Rollins M. Perkins, Chief of sports medicine and team physician for Southern Illinois University, agrees that athletes spend an entire generation believing that having multiple sex partners is okay. He concludes by stating that additional education is needed in order to alter this programmed behavior.

G. Off the Field Behavior: Athletes' Lifestyles and Health Risks

The issue of HIV/AIDS in athletics should focus attention on designing a program that will disseminate the best information to student-athletes where the risks of infection are greatest (Brown, 1994). According to the National Football League's HIV/AIDS policies, the "off-the field" activities (e.g., unsafe sex and drug use) are what may place NFL personnel at risk for HIV infection. According to a recent study by Dr. Auerlia

Nattiv on "Lifestyles and Health Risks of Collegiate Student-Athlete," student-athletes, especially males in contact sports, had significantly higher risk-taking behaviors than their non-athletic counterparts (Nattiv, 1996). A few of the results that were indicated: (1) greater frequency and quantity of alcoholic beverage consumption in the off-season, (2) greater number of sexual partners, (3) less "safe" sex, (4) less use of contraception, and (5) involvement in physical fights over the last 12 months. The October 7, 1991, issue of U.S. News & World Report discussed how numerous studies over the past decade have found alarming statistics concerning sexual assaults by athletes (Johnson, 1991). Towson State University in a 1990 national study found that about half of the reported acquaintance rapes were committed by fraternity members and athletes (Johnson, 1991). In a 1986 study by the Philadelphia Daily News of 200 college police reports and rape counselors, athletes were reported for raping a student on an average of once every eighteen days. Athletes were nearly 40 percent more likely to be reported for rape than the average male on campus (Johnson, 1991).

H. Role of Medical Staff

Most athletic trainers have not felt the true impact of the HIV epidemic on a direct basis. Archaic behaviors are present among some medical staff who detest present preventative measures. A position statement by the National Athletic Training Association is needed to update information about the HIV virus' manifestations and precautions to be taken. Since trainers and team physicians are in direct contact with the athletes, it is their duty as care givers to provide them with updated information about the virus and about behavior modifications. Athletes need someone they can trust with personal questions concerning delicate issues such as HIV and AIDS.

Literature Related in Methodology

A. Research Methodological Considerations on Human Sexual Behavior

In determining the criteria for the sample size, representative samples must be selected without excluding subculture differences in behaviors and attitudes among individuals toward human sexuality. The discussion of human sexuality is a highly personal and sensitive topic that is sometimes avoided and ignored. The majority of sex research is performed with a convenience rather than probability sample (Reinish *et. al*, 1988). When designating a sex research study, the sampling technique and other factors must be taken into consideration. For example, stratified probability sampling will obtain a 100 percent participation of the targeted group (Reinish *et. al,* 1988). Surveying a large group, called "over-sample" technique, will capture the true diversity of behaviors and attitudes within such groups. Additional demographic information will induce comparability and limit the number of generalizations.

Subject recruitment should be based on the following elements: (1) advertising in an inoffensive manner, (2) subject confidentiality, (3) assure confidence among subjects, and (4) appeal to the altruism of the participants (Reinish *et. al*., 1988). Instrument design should display clear and straightforward questions in a terminology that all respondents will understand. Reinish et al. state that all "Survey instruments used in the collection of data on human sexual behavior must reflect a keen awareness of the different, sometimes multiple, meanings associated with the various sexual behaviors as well as the subculturally specific terms used to refer to these behaviors."

When designing a research investigation that will include a specific sample, the researcher should consider that, regardless of economic strata, age, or ethnicity, males have less attentive focus in epidemiological studies of sex research (Zelnik & Kanter,

1981) due to their lack of participation and honesty in answering the questions. With this in mind, the researcher can propose to do a probability random sampling or a nonprobability sampling. Even though probability random sampling obtains a larger representation of a diverse cross-section, the nonprobability sample or purposive sample is more effective at surveying specific age groups and integrated individuals such as college students. The limitation of this type of sampling is that it often displays forms of biased findings.

The researcher will discover that a questionnaire format is most appropriate when assessing the content of culture, lifestyle, literacy, and sexual preference for sexual activity research (Reinish, *et. al.*, 1988). Four methods of data collection are: (1) telephone survey, (2) paper-pencil tests, (3) face-to-face interviewing, and (4) randomized response. The paper-pencil tests appear to be the best form of instrument when administering to a large group at one time, due to components such as expense, time, and privacy.

Other issues that are examined prior to the implementation of the survey with the participants are ethnic matching, location of the interview, and memory error. Interviews can influence the response level of discussion. However, with a paper-pencil instrument, the level of verbal activity is minimal, decreasing opportunities for administrator's bias or input. For these reasons, the method of data collection chosen was the second method, paper-pencil tests. A mutual ground for the test administrators and the respondents decreases the sensitivity towards this personal issue. A study by Bradburn *et. al.* in 1987 found that 20 percent of personal information was irretrievable after one year, and 60 percent of personal information was lost after five years. To minimize memory performance error, the research should implement set

boundaries and anchor points between headings which allow respondents to work in a set period of time allowing designated time for increased focus to occur.

The discussion of human sexuality does create sensitivity which could cause respondents to conceal true emotions and behaviors. Previous studies by Kinsey and other investigators reveal that different surveys can create a minimal deviation from what their true response is versus what they feel is the correct response. However, observed consistency did involve proving that surveys can produce replicable measures of sexual behavior in populations (National Research Council, 1990). The validity and reliability of AIDS behavioral research, like all other analytical models in diverse areas of investigation with human encounters, detects the same amount of interpersonal exchange and uncertainties introduced by a question-and-answer process (NRC, 1990).

B. Research Methodological Considerations on Assessment of HIV/AIDS-Related Knowledge, Risk-Behaviors, and Attitudes

The primary goal of a research study performed in 1991 titled "Assessment of the Prevalence and Risk Factors for Human Immunodeficiency Virus Type 1 (HIV-1) Infection among College Student Using Three Survey Methods" was to evaluate the seroprevelance and risk factors for HIV infection among undergraduate college students (Kotloff *et. al,* 1991). The secondary goal was to stress the importance of using these evaluations, pertaining to HIV-1 risk factors, in the development and implementation of public health programs on campuses. The authors targeted a large university campus in the Balitmore-Washington metropolitan area. The patient enrollment involved 27,902 undergraduates at the University of Maryland at College Park during the 1988-1989 academic year. Three types of surveys were used

simultaneously over a one-year period, creating a longitudinal study. The three survey methods used were:

(1) A survey of 3,400 student volunteers who consented to HIV-1 antibody testing and completed a risk assessment questionnaire. The thirty-item questionnaire and all results were available at counseling and educational seminars open to all participants.

(2) A random sample risk assessment and case identification mail survey; of 3,000 instruments mailed, 1,017 responses were received. The mail survey consisted of a 22-item anonymous questionnaire. The population was selected from a university-maintained data base using a the table of random numbers.

(3) A blind HIV-1 serosurvey using blood specimens collected by the Student Health Center for routine purposes (1,829 participants). Testing was performed on 2,000 blood specimens drawn during the spring semester of 1988 during routine care. The study also discussed the indications of bloodletting, demographic recordings, and procedures for duplication avoidance.

The statistical methods used for comparison of means were the Mann-Whitney, or t test. For comparison of proportions, the X2 test was performed. The binomial expansion was implemented to determine the confidence intervals for prevalence determinations. In determining the risk characteristics of the study sample tested in the mail survey and the voluntary serosurvey, the logistic regression was applied for each characteristic.

The authors concluded that: (1) In future studies, the sample chosen should have similar demographic information; (2) certain issues of personal values, emotionalism, privacy, and confidentiality can cause problems in recruiting representative subjects and reliable data; and (3) future health programs for college students should be targeted

toward education, counseling, and testing availability. Recommendations were made for future studies that targeted mobile and large populations such as the research study included. The authors continually made the reader aware of the lack of response and participation of the population.

A 1989-1991 research study performed by CDC focused on changes occurring in high school students pertaining to high-risk sexual behavior. CDC selected three independent national probability samples of public and private school students in grades 9 through 12. The number of students who participated in the study ranged from 8,098 to 12,272 (CDC, 1992). The rate of participation was between 64 percent and 68 percent. There were three different surveys implemented throughout the three-year study. During 1989, a survey was administered concerning HIV-related knowledge, attitudes, and behavior. The goal of the 1990 and 1991 surveys was to measure the HIV-related behaviors, including condom and drug injection use, and other health risk behaviors. All surveys included questions on HIV instruction, communication, and HIV-related behaviors.

CDC experts concluded there was a decrease in sexual intercourse and multiple sex partners. There were no significant changes reported in condom use and drug injection. CDC advised that future researchers take caution when interpreting changes over a short period of time. CDC has reported that state-specific data compiled from the Behavioral Risk Factor Surveillance System (BRFSS) on HIV-related knowledge, attitudes, and behavior (KAB) can help health officials plan and refine program activities "to better meet overall HIV program priorities and goals at the state level" (CDC, 1922).

Numerous assessments of HIV/AIDS related knowledge, attitudes, and behaviors utilizing the analysis of self-report questionnaires have been completed on adolescents and college populations. One study concluded that "poor knowledge about the role of limiting themselves to a single partner as a way of reducing the risk of infection" as well as "serial monogamy" could result in unprotected sexual intercourse and possible infection (Madhok, 1993). Another study of the ethnic breakdown of AIDS-related knowledge and attitudes of adolescents found differences between ethnic groups, with general patterns emerging between highest scores (Caucasian) and lower scores (minorities) (Anderson, 1991). These authors concluded that, even though more AIDS prevention education is occurring in America, less than half of their representative population, especially among ethnic minorities, stated they had not obtained any instructional facts on HIV infection and AIDS (Anderson, 1991). Presently, thirty-three states mandate AIDS education, and seventeen recommend AIDS instruction to their school districts (deMauro, 1990).

A study performed on 465 high school and college students about their AIDS knowledge and how this knowledge affected their risk behavior found that less than 50 percent of the respondents had changed their behavior since learning about AIDS/HIV transmission (Weinstein, 1991). Additionally, the study showed that, as adolescents aged, the percentages expressing concern and worry about AIDS decreased from 75 percent to 50 percent by the age of 21-24.

Hirschorn (1987) discovered that many heterosexual college students did not see AIDS as a major threat, believing that "it can't happen to me." Baldwin and Baldwin (1988) discovered that students, who worried more about contracting AIDS, had multiple sex partners and were less likely to use condoms. According to Trice & Price-Greathouse,

1987, students believed that contracting AIDS was a chance event and that they were not susceptible to contracting the virus.

Jones *et. al.* (1991), in a study of 2,307 ninth and eleven grade students, found confusion on knowledge of transmission and attitudes towards AIDS-related issues. In this study, the authors concluded that influencing teenagers to change their knowledge level and risky behaviors could be accomplished through five elements: (1) a rational element, based on knowledge, (2) an emotional element, based on intensity of attitudes or feelings, (3) a practical element, based on personal skills needed to achieve the new desired behaviors, (4) an interpersonal element, or social networks, and (5) a structural element or the economic, legal, and technological context in which at-risk behavior takes place (Jones, 1991). This study indicated that people in general are not communicating about the issue of HIV.

In April and May 1989, O'Leary surveyed 923 college students and discovered that alcohol and drug use was associated with riskier behavior. Additionally, the authors found that students who believed that they had adequate interviewing skills of prospective partners concerning risk-related histories were exposing themselves to greater chance of infection. They were relying on the trustworthiness of their partners' self-report of safe history as a form of protection against HIV infection.

On a positive note, a study of 689 college freshmen concerning knowledge of AIDS and safer sex practices (DiIorio, 1993) found through the administration of a modified DiClemente AIDS information survey that students are retaining basic information on AIDS prevention. The study found that some misinformation about HIV transmission, e.g., and that AIDS is a gay disease, still persists within the college population. The

modified DiClemente (1986) AIDS Information Survey is a 34-item self-report questionnaire that assesses knowledge of, misconceptions about, and perceived susceptibility to AIDS (DiIorio, 1993). This instrument had three subscales, included 26 items on knowledge, five items on misconception, and three items on perceived susceptibility. For this particular study, the perceived susceptibility items were eliminated, resulting in a total of 31 items utilized.

A study assessing AIDS-related knowledge, attitudes, and behaviors among 834 college students (Kinnick *et. al.*, 1989) revealed a significant difference in the knowledge between freshmen and upper-level students. The level of knowledge increased from freshmen through graduate students. Like the majority of studies among the college population, this study documented careless sexual behavior and lack of changes among sexual practices even though the level of AIDS knowledge had increased. The knowledge section utilized in the above study found after a pilot study that the items were too easy. The reliability of the knowledge sections was determined by the Kuder-Richardson formulas to be 0.53. The authors recognize that this reliability coefficient was low and suggested that the DiIorio knowledge section be utilized. Furthermore, the authors concluded that the brevity of the test and distinct items may have contributed to the low correlation. Nonetheless, the authors suggested that the attitudes and behavior section be utilized, since it would improve the understanding of student-athletes' behaviors and dictate some form of direction for future educational planning and health care delivery systems for student-athletes. The AIDS-Related Survey consisted of a 21-item questionnaire assessing attitudes towards AIDS patients, dating and sexual practices, and AIDS prevention and treatment. The AIDS-Related Behavior Survey consisted of an 18-item questionnaire assessing

behaviors related to AIDS and its prevention, including dating and sexual practices and information-seeking behavior.

Only two studies of HIV-related knowledge, attitudes, and behaviors among adolescents and college students in the South were found in the literature. A study of 180 adolescents in a southern state (Boswell et al., 1992) discovered a high degree of HIV-related knowledge. Urban and rural adolescents with such knowledge were still engaging in activity with a high risk of becoming infected with HIV. Adame et al., (1991) used a modified DiClemente AIDS Knowledge, Attitudes, and Perceived Susceptibility to AIDS Instrument to study 226 southern college freshmen students on their knowledge, attitudes, and beliefs about AIDS. The study revealed that "in spite of our respondents' increased knowledge about AIDS, they still do not appear to be as concerned about contracting AIDS as perhaps they ought to be" (Adame, 1991). Additionally, the authors expressed concern that over half of the respondents (54.7%) did not perceive themselves at risk to HIV infection, stating that they were "less likely than most people to get AIDS" (Adame, 1991). Overall, the authors concluded that the findings of the study suggested an increase in AIDS knowledge over those surveyed in previous DiClemente studies in 1985.

The only study found on HIV/AIDS-related knowledge, attitudes, and risk behaviors among student-athletes was by the NCAA in 1993. The research discovered the following concerns among student-athletes: in reference to HIV testing of contact participants, 72.6 percent approved testing; disqualification and removal of HIV-positive athletes in contact sports garnered 50 percent in favor; and interest in learning more about how to protect themselves from HIV infection was indicated by 80

percent of respondents. All this data proved that student-athletes have a significant concern about the existence and spread of HIV/AIDS in intercollegiate athletics.

Summary

AIDS has been commonly compared to the game of "Chutes and Ladders"; many factors contribute to the ups and downs in the progression of HIV. It stands to reason that additional literature does not offer guidelines for participation of HIV-infected athletes in sports nor for health care delivery systems for HIV-infected athletes. There was no doubt that athletes' lifestyles and health risks, compared to the general college population, are in need of targeted AIDS education and assessments of AIDS-related knowledge, attitudes, and behaviors. Furthermore, athletes' lifestyles and health risks have been documented to be different from their non-athlete counterparts, which may place them at higher risk for certain health problems ultimately leading to premature death (Nattiv, 1996). There were, however, other barriers intervening on these morbidity and mortality issues, such as social stigma issues, concern about transmission of HIV in athletics, participation exclusion, mandatory HIV testing, disclosing of an HIV-infected athlete's status, and the role of the medical staff. Rather, these barriers relate to the host institution's availability and accessibility of health care for an HIV-infected student-athlete, which was dependent, in great part, on the organizational incentives of the institutions to address these issues and deflect the societal barriers.

This study attempted to elaborate on those variables that could help the health care delivery system provide athletes with appropriate preventative strategies and additional research by assessing the knowledge, attitudes, behaviors, sport-specific attitudes, and

knowledge sources of student-athletes. Hopefully, the results of this study may assist health care givers in actively designing and promoting AIDS awareness programs for adolescents and student-athletes. Better than treating individuals after transmission and infection, preventative education can be used as the alternative treatment.

CHAPTER III

METHODOLOGY

Overview

The purpose of the study was to assess the current level of knowledge, attitudes, and behaviors related to HIV infection and AIDS among representative freshmen and senior football student-athletes in the Southeastern Conference of the NCAA. The methodology used in this research study is presented in the following manner: Population and Sample Selection, Instrumentation, Collection of Data, Analysis of Data, and Summary.

Population and Sample Selection

The population included representation from seven of the twelve colleges and universities which are members of the Southeastern Conference. Using a convenience sampling technique, six instruments were administered to 138 freshmen and 94 senior football student-athletes at each institution spanning from late Fall Semester of 1994 into the 1995-1996 academic years [Appendix A]. The sample size consisted of 232 student-athletes. The estimated total student-athlete population of the Southeastern Conference is 720, including the following divisions: 35 freshmen (scholarship, 20; non-scholarship, 15) and 25 seniors (scholarship, 15; non-scholarship, 10) multiplied by 12 member institutions of the Southeastern Conference. Permission to administer the instruments was obtained from the Southeastern Sports Medicine Committee. The secondary process of approval was supported by the Commissioner of the Southeastern Conference [Appendix B]. Before beginning the study, the Survey Form A and Project Description were approved by the Institutional Review Board for Research with Human Subjects at the University of Tennessee, Knoxville.

Instrumentation

This section contains information regarding the instruments utilized in the study. Included is the rationale for selecting each instrument and a discussion of its validity and reliability. Instruments used in this study were: (A) The Modified DiClemente AIDS Knowledge Survey, (B) AIDS-Related Attitudes Survey, (C) AIDS-Related Behavior Survey, (D) Demographic Data, (E) Sport-Specific Attitude Information, and (F) Knowledge Source Information.

A. Modified DiClemente AIDS Knowledge Survey.

The Modified DiClemente (1986) AIDS Knowledge Survey consisted of a 31-item questionnaire assessing knowledge and misconceptions about HIV/AIDS. These items, while printed on the survey instrument in a "scrambled" fashion, were divided into six categories for presentation in this manuscript. The six categories are as follows: (a) What is AIDS? (5 items), (b) How Can You Get AIDS? (11 items), (c) How Can You Prevent AIDS? (3 items), (d) How Can AIDS Be Treated? (4 items), (e) Who Gets AIDS? (4 items), and (f) How Does AIDS Affect People? (4 items). This instrument, originally designed by DiClemente in 1986, was modified by DiIorio *et. al.* for a study in 1993 to reflect updated AIDS research. Richard Keeling, Chair of the American College Health Association's AIDS Task Force, and Bernard C. Kinnick, author of "An Assessment of AIDS-Related Knowledge, Attitudes, and Behaviors Among Selected College and University Students," verbally recommended that this updated knowledge instrument be utilized for the first section. All items were scored using a true-false format. Total scores and frequencies were validated by summing the correct responses for each item. No points were given for wrong answers. Validity of the instrument and reliability of the scale was assessed by DiClemente *et. al.* (1988). DiIorio (1993) and DiClemente (1988) reported that the internal consistency reliability coefficients for the

knowledge and misconception subscales were 0.72 and 0.75. Additionally, Cronbach's alphas computed for sum of items from responses of the respondents in the DiIorio's study were 0.18 for the knowledge subscale and 0.23 for the misconception subscale. DiIorio reported that the alpha coefficients were low due to the lack of heterogeneity of responses. Additionally, most of the respondents answered the questions correctly, providing little variance necessary to compute reliability coefficients.

B. AIDS-Related Attitudes and Behavior Survey.

Two sections, AIDS-Related Attitudes and Behaviors sections of the College and University AIDS Survey, constructed by Kinnick et. al, were utilized for this present study. All 21 attitude items and 18 behavior items included in this study were validated by Kinnick *et. al.* (1989) through a panel of judges and a pilot study.

The AIDS-Related Attitude Survey consisted of a 21-item questionnaire assessing attitudes toward AIDS patients, dating and sexual practices, and AIDS prevention and treatment. These items, too, were divided into categories for presentation in this manuscript. The categories included items related to: (a) Quarantine & Isolation (5 items), (b) Magnitude of Problem & Concern (6 items), (c) Education & Knowledge (6 items), and (d) Sex & Safer Sex (4 items). All items were scored using a Likert-type inventory. Frequencies were evaluated by summing the responses for each item.

AIDS-Related Behavior Survey consisted of an 18-item questionnaire assessing behaviors related to AIDS and its prevention, including dating and sexual practices and information-seeking behavior. Once again, the items were divided into categories for presentation in this manuscript. The categories included: (a) Efforts To Learn More

and Prevention (8 items) and (b) Social and Work-Related Relationships (10 items). All items were scored using a Likert-type inventory. Frequencies were evaluated by summing the responses for each item.

C. Demographic Data

The Demographic Data included four items considered important in characterizing the sample population and determining statistical differences. The four items were: academic year, age, ethnicity, and marital status. The rationale for selecting these four demographic data was based on previous studies as well as limitations required by the Institutional Review Board for Research with Human Subjects at the University of Tennessee, Knoxville. Frequencies were evaluated by summing the responses for each item.

D. Sport-Specific Attitude Information.

The Sport-Specific Attitude Information included five items specifically related to attitudes and activities in the intercollegiate athletic environment. These items were designed by the researcher based on the review of literature to gather additional information from the accessible population as recommended by the doctoral committee. Frequencies were evaluated by summing the responses for each item.

E. Knowledge Source Information.

The Knowledge Source Information included six items pertaining to the sources of HIV/AIDS education received by the participants. These items were also designed by the researcher to determine additional information from the accessible population as recommended by the doctoral committee. Frequencies were evaluated by summing the

responses for each item. This information will be used by the Southeastern Conference to design future educational programs.

Collection of Data

Each of the twelve Head Athletic Trainers in the conference was introduced to the study and given instructions on the policies and procedures of the instrument administration during their annual Southeastern Conference meeting in July 1994. Clear and complete instructions for administering each instrument were provided, including details related to: how each should be presented, proper environment in which each should be presented, and how confidentially would be ensured [Appendix C]. Seventy-five of each of the following instruments were included in the administration package, along with written instructions pertaining to their administration: (1) The Modified DiClemente AIDS Knowledge Survey, (2) AIDS-Related Attitudes Survey, (3) AIDS-Related Behavior Survey, (4) Demographic Data, (5) Sport-Specific Attitude Information, and (6) Knowledge Source Information. Follow-up was performed through facsimile correspondence [Appendix D]. Six universities responded in a timely fashion. A second mail-out was completed during the fall semester of 1995. No additional universities responded. A third and final mail-out was completed during the spring Semester of 1996 [Appendix E]. One additional university responded.

Each student-athlete was given a choice of whether or not to participate in the study [Appendix F]. The purpose and benefit of the investigation was discussed with the student-athletes. Anonymity was ensured by not having the athletes sign their name to the surveys. Athletes were informed that the data would be organized, classified,

stored, and scored in such a manner that neither the subjects nor the universities would be identifiable. It took the athletes approximately 25 minutes to complete the survey.

Participating universities, including their athletes, were provided only the consolidated results from the study and tabular results from their specific institution upon request. Anonymity was assured to each institution, and they were promised that their results would remain confidential and would only be made available to them and others at their written request granting permission. A copy of the completed dissertation including recommendations for a suggested instructional program on AIDS/HIV transmission were mailed to each institution, the SEC Commissioner, the NCAA Sports Sciences Staff, the Centers for Disease Control, Dr. Robert P. Keeling at American College Health Association, SEC Research Committee, and the Blood-borne Pathogens Committee.

With the consent of the participating academic institutions, their respective athletic departments, and the Southeastern Conference and based upon the findings after the completion of the assessment, an educational seminar design could be offered to specific universities.

Analysis of the Data

After the tests were completed and returned, university packets were coded to ensure confidentiality. The contents of each university packet were stamped with an appropriate code number to ensure quality control. Items on the Modified DiClemente AIDS Knowledge Surveys were scored using a true-false format by circling the letter "T" or "F". Frequencies were determined by summing the responses for each item.

Items on the AIDS-Related Attitude Survey were scored by circling one of the four response options: "strongly agree", "agree", "disagree", and "strongly disagree". Frequencies were determined by summing the responses for each item. Items on the AIDS-Related Behavior Survey were scored by circling one of the four response options: "strongly agree", "agree", "disagree", and "strongly disagree". Frequencies were determined by summing the responses for each item. The sums of the "strongly agree" and the "agree" responses were combined. The sums of the "strongly disagree" and the "disagree" responses were also combined. The rationale for this decision was that different individuals are likely to interpret "strongly agree" and "agree" in different ways. The researcher was only interested in comparing responses that tended to agree or disagree with the items.

The Sport-Specific Attitude and Knowledge Source Surveys were scored by selecting one of three response options: "Yes", "No", and "Not Sure." Frequencies were determined by summing the responses for each item.

Statistical Procedures

In order to assess the HIV/AIDS knowledge, attitudes, and behaviors of football student-athletes in the Southeastern Conference, frequency counts and percentages for character-valued variables of the overall population and subheadings, as well as cross-tabulations and measures for association utilizing Demographic Data (academic year, ethnicity, and university) were determined utilizing Chi-square Analysis (SPSS, Version 7.0). SPSS 7.0 is a "comprehensive statistical software system designed to handle all steps in an analysis, ranging from data listings, tabulations, and descriptive statistics to complex statistical analysis" (SPSS, 1996).

Summary

The purpose of Chapter III was to present the research design. Using a convenience sampling technique, six instruments were administered to 138 freshmen and 94 senior football student-athletes in the Southeastern Conference to assess knowledge, attitudes, and behaviors related to HIV/AIDS. Six instruments were used: the first one was a true-false scale written by DiClemente (1988) and revised by DiIorio (1993); the second and third ones, a Likert-type scale written by Kinnick et al. to assess student-athletes' AIDS-related attitudes and behaviors; and the fourth, fifth, and sixth ones, questionnaires requesting demographic data, sport-specific attitudes, and knowledge sources. Finally, analysis was performed to evaluate the frequency of overall participants' responses and to examine the potential association between responses and (1) academic year, (2) ethnicity, and (3) university. The findings of this study are presented in Chapter IV.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE DATA

Introduction

The main purpose of this study was to assess the current level of knowledge, attitudes, and behavior of representative football athletes in the Southeastern Conference regarding HIV infection and AIDS. In addition, sport-specific attitudes were indicated, and information was collected as to sources used by athletes to gain AIDS information, in order to assess effective means of disseminating AIDS information. The analysis and interpretation of the data was presented in the following manner: Sample Description, Data Presentation and Analysis (Knowledge, Attitudes, Behavior, Sport-Specific Attitudes, Knowledge Sources), and the Summary. The Data Presentation and Analysis was divided into four subheadings: overall population, academic year, ethnicity, and university.

Sample Description

This study included 232 student-athletes enrolled at seven representative colleges and universities from the Southeastern Conference. These seven campuses represent a variety of Southeastern Conference institutions and thus a fairly broad cross-section of freshmen and senior football athletes within the Southeastern Conference. Eastern (three institutions, 42.9 %) and Western (four institutions, 57.1%) Divisions of the Southeastern Conference were nearly equally represented [Table 1].

TABLE 1. SOUTHEASTERN CONFERENCE EAST AND WEST DIVISION

EAST DIVISION	WEST DIVISION	TOTALS
3 (42.9%)	4 (57.1%)	7 Institutions

The 232 males subjects included 138 freshmen (59.5%) and 94 seniors (40.5%) [Figure 1]. The number of respondents in each age group was as follows: 18 years, 54; 19 years, 26; 20 years, 21; 21 years, 31; 22 years, 56; and 29 years, 1 [Figure 2]. The ethnicity of the population consisted of: 101 African-American athletes (43.5%) , 120 White athletes (51.7%) , and 10 Other (4.7%) [Figure 3]. Two hundred twenty-four athletes were unmarried, two were unmarried but "living with a partner," five were married, and one was divorced [Figure 4].

Data Presentation and Analysis

Knowledge

The knowledge section was presented using the six subheadings of the instrument for the participants' overall responses. Subheading percentage averages and important findings were noted. The student-athletes' overall percentage average for the six subheadings was 90.7%. Over 90% of the sample answered 25 out of the 31 items correctly. Six questions were answered incorrectly by 12.6-51.5% of the sample. Last, the tests for associations were divided into three subheadings: academic year, ethnicity, and university.

A. What is AIDS?

Five items under the subheading what is AIDS were answered correctly by 95.7% [Table 2]. The most important findings included: 4.7% were unaware that AIDS is a disease caused by a virus, 4.7% were unaware that AIDS is a medical condition in

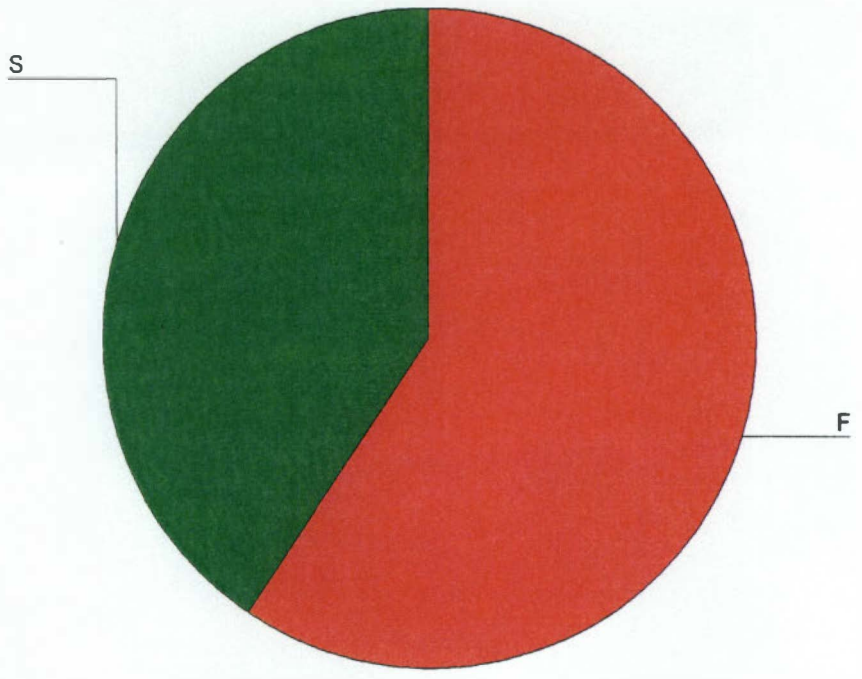

FIGURE 1. ACADEMIC YEAR DIFFERENCES

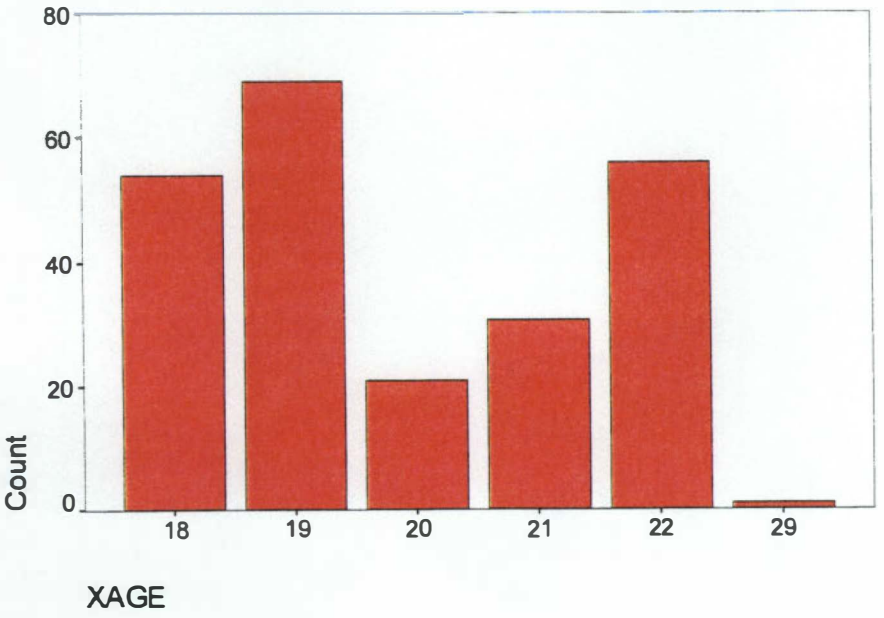

FIGURE 2. AGE DIFFERENCES

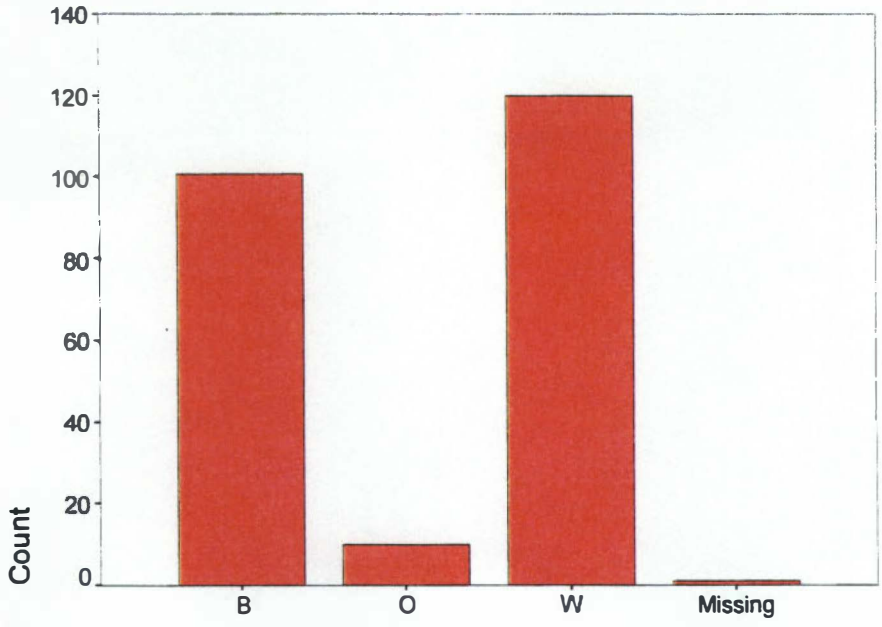

FIGURE 3. ETHNICITY OF POPULATION

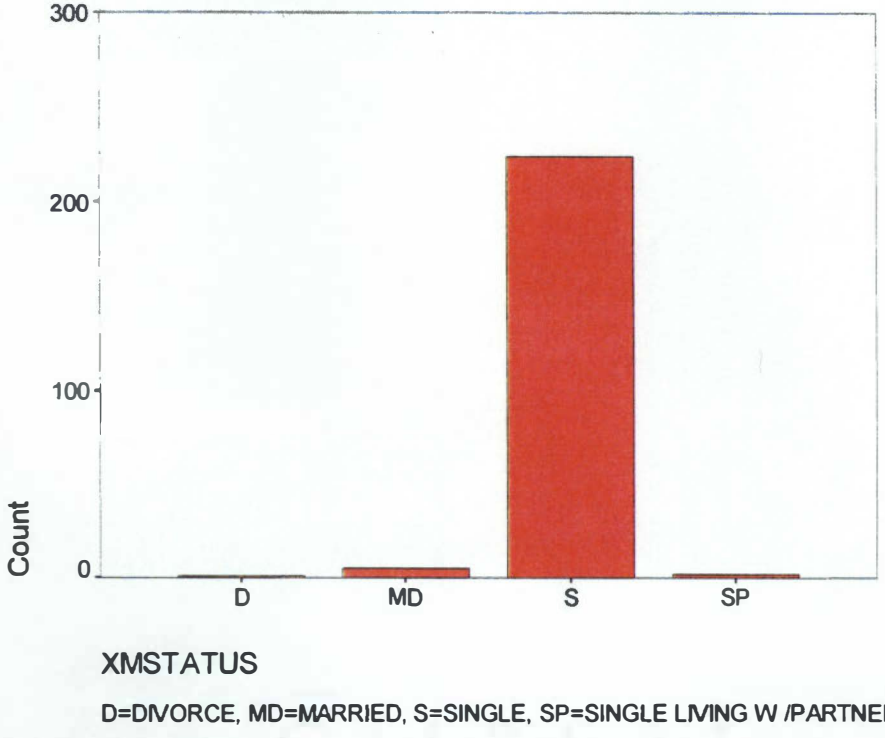

FIGURE 4. MARITAL STATUS DIFFERENCES

TABLE 2. AIDS *Knowledge* Among Athletes (Whited Study: N=232)

Item	True		False	
	N	%	N	%
KNOWLEDGE: WHAT IS AIDS?				
AIDS is a life-threatening disease.	225	97.0	7	3.0
AIDS is not a serious problem, it is like having a cold	6	2.6	226	97.4
AIDS is a disease caused by a virus	221	95.3	11	4.7
AIDS is a medical condition in which your body cannot fight off diseases.	221	95.3	11	4.7
AIDS is caused by the same virus that causes herpes.	15	6.5	216	93.5
KNOWLEDGE: HOW CAN YOU GET AIDS?				
You can get infected with the virus that causes AIDS by sharing a needle with a drug user who has the disease.	231	99.6	1	0.4
Stress causes AIDS.	3	1.3	229	98.7
You can get AIDS from hugging someone with the disease.	6	2.6	225	97.4
A pregnant woman who has the virus that causes AIDS can infect her unborn baby with the virus.	226	97.4	6	2.6
You can get AIDS by shaking hands with someone who has the disease.	7	3.0	225	97.0
You can get AIDS by using the comb or brush of someone with AIDS.	9	3.9	223	96.1
You can get AIDS by being around someone with the disease.	15	6.5	217	93.5
Having sexual intercourse with someone who has AIDS is one way of getting it.	221	95.7	10	4.3
You can get AIDS from food handled by someone who has the disease.	29	12.6	202	87.4
Receiving a blood transfusion can infect a person with the virus that causes AIDS.	212	91.4	20	8.6
You can get AIDS when you give blood.	72	31.2	159	68.8

TABLE 2 (continued).

Item	True		False	
	N	%	N	%
KNOWLEDGE: HOW CAN YOU PREVENT AIDS?				
Using a condom during sex can lower the risk of becoming infected with the virus that causes AIDS.	221	96.1	9	3.9
You can avoid getting AIDS by exercising regularly.	4	1.7	228	98.3
There is a vaccine available that protects a person from getting AIDS.	13	5.6	218	94.4
KNOWLEDGE: HOW CAN AIDS BE TREATED?				
AIDS can be cured, if treated early.	12	5.2	220	94.8
There is a blood test that shows the presence of the AIDS virus.	224	96.6	8	3.4
At the present time there is no cure for AIDS.	222	96.1	9	3.9
Some drugs have been developed for the treatment of AIDS.	186	80.2	46	19.8
KNOWLEDGE: WHO GETS AIDS?				
Only gay men can get AIDS.	3	1.3	229	98.7
Anybody can get AIDS.	228	98.3	4	1.7
AIDS cannot be transmitted from women to men.	26	11.2	206	88.8
Lesbians are at high risk for getting AIDS.	102	44.0	130	56.0
KNOWLEDGE: HOW DOES AIDS AFFECT PEOPLE?				
People who get AIDS usually die from the disease.	216	93.1	16	6.9
A person with AIDS can look and feel healthy.	222	95.7	10	4.3
People with AIDS usually have other diseases as a result of AIDS.	171	73.7	61	26.3
The virus that causes AIDS can damage the brain.	112	48.5	119	51.5

which your body cannot fight off diseases, and 6.5% believed that AIDS is caused by the same virus that causes herpes.

B. How can you get AIDS?

Eleven items under the subheading How can you get AIDS were answered correctly by 93% [Table 2]. However, some student-athletes thought you can get AIDS by being around someone with the disease (6.5%), using the comb or brush of someone with AIDS (3.9%), eating food handled by someone who has the disease (12.6%), or by giving blood (31.2%). Some student-athletes were unaware that AIDS is transmitted through sexual intercourse (4.3%) and that it can be transmitted from an HIV-infected mother to the unborn (2.6%). A higher percentage believed that receiving a blood transfusion can infect a person with the virus that causes AIDS (8.6%).

C. How can you prevent AIDS?

Three items under the subheading How can you prevent AIDS were answered correctly by 96.2% [Table 2]. Some of the student-athletes were unaware that using a condom during sex can lower the risk of becoming infected with the virus that causes AIDS (3.9%), and some actually thought a vaccine was available (5.6%).

D. How can AIDS be treated?

Four items under the subheading How can AIDS be treated were answered correctly by 91.9% [Table 2]. Nonetheless, some student-athletes were unaware that there is a blood test that shows the presence of the AIDS virus (3.4%) or that some drugs have been developed for the treatment of AIDS (19.8%). Some student-athletes believed that AIDS can be cured, if treated early (5.2%).

E. Who gets AIDS?

Four items under the subheading Who gets AIDS were answered correctly by 85.5% [Table 2]. The most important findings included that: the student-athletes seemed to understand that it is not only gay men who can get AIDS (98.7%) and that anybody can get AIDS (98.3%). Yet a high percentage of student-athletes thought lesbians were at high risk (44.0%) and that AIDS cannot be transmitted from women to men (11.2%).

F. How does AIDS affect people?

Four items under the subheading How does AIDS affect people? were answered correctly by 77.8% [Table 2]. However, student-athletes were unaware that the virus that causes AIDS can damage the brain (51.5%), that people with AIDS usually have other diseases as a result of AIDS (26.3%), that people who get AIDS usually die from the disease (6.9%), or that a person who has AIDS can look and feel healthy (4.3%).

Knowledge Chi-square Analysis

In order to compare the relationship effect of knowledge, chi-square analysis was used to test for associations between responses to the knowledge items and three other variables (academic year, ethnicity, and university).

A. Academic Year.

There was no indication of relationships between freshmen and senior responses.

B. Ethnicity.

White student-athletes were more likely to disagree with the statement that AIDS is caused by the same virus that causes herpes ($p<.05$), that you cannot get AIDS when

you give blood ($p<.05$), that AIDS can be cured if treated early ($p<.05$), and that AIDS cannot be transmitted from women to men ($p<.05$) [Table 3].

C. University.

The following were among the questions for which significant differences were observed among the universities: that you can get AIDS when you give blood ($p<.001$), that lesbians are at high risk for getting AIDS ($p<.01$), that the virus that causes AIDS can damage the brain ($p<.05$), and that people with AIDS usually have other diseases as a result of AIDS ($p<.05$) [Table 4].

Attitudes

The attitude section of the survey utilized a Likert-type scale assessing positive and negative attitudes towards various issues within the AIDS epidemic. A four-point scale was applied to the forced-response choices, with a higher value indicating a greater positive or favorable attitude. Point values were reversed for negative statements. This section deals with participants' overall responses to items.

The attitude section was presented using the four subheadings of the instrument for the participants' overall responses. Subheading percentage averages and important findings were noted. The student-athletes' overall percentage average for favorable responses of the four subheadings was 80.2%. Lastly, the tests for associations were divided into three subheadings: academic year, ethnicity, and university.

TABLE 3. AIDS *Knowledge* Among Athletes - Ethnic Comparisons (Whited Study: N=232)

Item	True			False			Chi
	W %	A %	O %	W %	A %	O %	Square
AIDS is caused by the same virus that causes herpes.	2.5	10.9	0.0	97.5	89.1	100.0	7.4*
You can get AIDS when you give blood.	23.5	38.6	50.0	76.5	61.4	50.0	7.5*
AIDS can be cured, if treated early.	0.8	8.9	10.0	99.2	91.1	90.0	8.5*
AIDS cannot be transmitted from women to men.	5.8	16.8	10.0	94.2	83.2	90.0	6.9*

W = White (n_w = 120), A = African American (n_a = 101), O = Other (n_o = 11)

* Significant at < .05, **Significant at < .01, ***Significant at < .001

TABLE 4. AIDS *Knowledge* Among Athletes - University Comparisons (Whited Study: N=232)

Item	University Code	True							False							Chi
		1 %	2 %	3 %	4 %	5 %	6 %	7 %	1 %	2 %	3 %	4 %	5 %	6 %	7 %	Square
You can get AIDS when you give blood.		45.2	40.0	39.4	6.0	29.3	41.7	33.3	54.8	60.0	60.6	94.0	70.7	58.3	66.7	21.5***
Lesbians are at high risk for getting AIDS.		54.8	28.0	51.5	38..0	65.9	30.6	25.0	45.2	72.0	48.5	62.0	34.1	69.4	75.0	18.5**
The virus that causes AIDS can damage the brain.		74.2	56.0	34.4	38.0	48.8	47.2	50.0	25.8	44.0	65.6	62.0	51.2	52.8	50.0	13.6*
People with AIDS usually have other diseases as a result of AIDS.		80.6	64.0	72.7	88.0	75.6	61.1	56.3	19.4	36.0	27.3	12.0	24.4	38.9	43.8	12.8*

* Significant at < .05, **Significant at < .01, ***Significant at < .001

A. Quarantine/Isolation.

Five items under the subheading Quarantine/Isolation were answered positively by 70.1% [Table 5]. Yet the majority of student-athletes disagreed with the statement that no one should be forced to submit to an AIDS blood test (68.0%). Other negative attitudes included: that persons with AIDS should be treated in a separate hospital (38.3%); that persons with AIDS should not be allowed to work in public places (30.7%); and that they would not live with someone who had AIDS (58.1%). Another important finding was: that physicians should be required to report people with AIDS to the state health departments (74.9%).

B. Magnitude of Problem/Concern.

Six items under the subheading Magnitude of Problem/Concern were answered positively by 83.0% [Table 5]. The most important findings included: some student-athletes thought people were more concerned about AIDS than they need to be (11.2%), while a majority felt that AIDS was the most critical health problem on college campuses (68.0%). An alarming percentage (30.7%) indicated that they were not at all concerned about contracting the AIDS virus. Additionally, some student-athletes expressed the opinion that AIDS is not going to spread very rapidly in the general population (12.1%), doubted that anyone they knew would contract AIDS (13.9%), and were confident that medical science would find a cure for AIDS the next five years (34.0%).

C. Education/Knowledge.

Six items under the subheading Education/Knowledge were answered positively by 81.3% [Table 5]. Interestingly, student-athletes indicated that they would like to learn more about AIDS and how it is transmitted (84.4%) and believed that AIDS education

TABLE 5. AIDS Related *Attitudes* Among Athletes (Whited Study: N=232)

Item	Strongly Agree %	N	Agree %	N	Disagree %	N	Strongly Disagree %	N
ATTITUDES: QUARANTINE/ISOLATION								
Persons with AIDS should not be allowed to work in public places.	7.8	18	22.9	53	57.6	133	11.7	27
I would not live with someone who has AIDS.	24.9	57	33.2	76	34.1	78	7.9	18
Persons with AIDS should be treated in a separate hospital.	12.2	28	26.1	60	51.3	118	10.4	24
No one should be forced to submit to a blood test for AIDS no matter what the purpose.	8.2	19	23.8	55	46.8	108	21.2	49
Physicians should be required to report people with AIDS to state health departments.	26.8	62	48.1	111	19.9	46	5.2	12
ATTITUDES: MAGNITUDE OF PROBLEM/CONCERN								
I am not concerned about contracting the virus.	6.9	16	23.8	55	33.3	77	35.9	83
I believe AIDS is the most critical health problem on college campuses.	31.2	72	36.8	85	29.9	69	2.2	5
People are more concerned about AIDS than they need to be.	3.0	7	8.2	19	41.6	96	47.2	109
Medical science will find a cure for AIDS in the next 5 years.	5.7	13	28.3	65	53.5	123	12.6	29
In my opinion, AIDS is not going to spread very rapidly in the general population.	1.7	4	10.4	24	51.3	118	36.5	84
I doubt that anyone I know will contract AIDS.	1.7	4	12.2	28	58.7	135	27.4	63

TABLE 5 (continued).

Item	Strongly Agree %	N	Agree %	N	Disagree %	N	Strongly Disagree %	N
ATTITUDES: EDUCATION/KNOWLEDGE								
Knowledge of AIDS will result in safer sexual practices.	53.2	123	41.1	95	4.3	10	1.3	3
I fear receiving a blood transfusion because of AIDS.	25.5	59	44.2	102	26.8	62	3.5	8
I would like to learn more about AIDS and how it is transmitted.	24.2	56	60.2	139	13.0	30	2.6	6
Most people know where to go to obtain information about AIDS.	9.1	21	42.9	99	41.6	96	6.5	15
Most people hesitate to ask questions about AIDS for fear of being accused of having AIDS.	12.1	28	49.8	115	33.3	77	4.8	11
I believe that AIDS education should be provided in the public schools.	49.1	113	45.2	104	3.9	9	1.7	4
ATTITUDES: SEX/SAFER SEX								
Persons with AIDS should abstain from sex.	64.5	149	22.9	53	10.8	25	1.7	4
I am concerned that I may have contracted the AIDS virus from a sexual partner.	4.8	11	11.8	27	28.8	66	54.6	125
It is important to discuss safe sex with my partner.	51.7	119	40.4	93	6.5	15	1.3	3
I think it is important to reduce the number of one's sex partners.	43.2	99	45.4	104	8.3	19	3.1	7

should be provided in public schools (94.3%). Nearly half of the athletes disagreed with the statement that most people know where to go to obtain information about AIDS (48.1%). Yet student-athletes agreed with the statement that most people hesitate to ask questions about AIDS for fear of being accused of having AIDS (61.9%) and expressed fear of receiving a blood transfusion because of AIDS (69.7%).

D. Sex/Safer Sex.

Four items under the subheading Sex/Safer Sex were answered positively by 85.0% [Table 5]. More than 90 percent of the athletes agreed that knowledge of AIDS will result in safer sexual practices (94.3%). Other important findings included: that student-athletes thought it was important to discuss safe sex with their partner (92.1%), that it is important to reduce the number of one's partners (88.6%), and that persons with AIDS should abstain from sex (87.4%). Surprisingly, high percentage (16.6%) acknowledged concern that they may have contracted the AIDS virus from a sexual partner.

Attitude Chi-square Analysis

In order to compare the relationship effect of attitudes, chi-square analysis was used to test for associations between responses to the attitude items and three other variables (academic year, ethnicity, and university).

A. Academic Year.

Seniors were more concerned that they had contracted the AIDS virus from a sexual partner than were freshmen ($p<.05$).

B. Ethnicity.

White student-athletes had a greater tendency to disagree with the following statements: that no one should be forced to submit to a blood test for AIDS no matter what the purpose ($p<.001$), that people are more concerned about AIDS than they need to be ($p<.001$), that they are concerned that they may have contracted the AIDS virus from a sexual partner ($p<.001$), and that AIDS is the most critical health problem on college campuses ($p<.05$) [Table 6]. White student-athletes were more likely to agree with the following statements: that persons with AIDS should be treated in a separate hospital ($p<.05$), that persons with AIDS should abstain from sex ($p<.05$), that it is important to discuss safe sex with their partners ($p<.05$), and that it is important to reduce the number of one's sex partners ($p<.05$). African-American student-athletes tended to disagree more with the statement that they would not live with someone who has AIDS ($p<.01$) and that persons with AIDS should not be allowed to work in public places ($p<.05$).

C. University.

The following were among the questions for which significant differences were observed among the universities: no one should be forced to submit to a blood test for AIDS no matter what the purpose ($p<.001$), persons with AIDS should not be allowed to work in public places ($p<.01$), they fear receiving a blood transfusion because of AIDS ($p<.05$), AIDS education should provided in the public schools ($p<.05$), it is important to reduce the number of one's sex partners ($p<.05$), and knowledge of AIDS will result in safer sexual practices ($p<.05$) [Table 7].

TABLE 6. AIDS Related *Attitudes* Among Athletes - Ethnic Comparisons (Whited Study: N=232)

Item	Strongly — Agree —			— Agree —			— Disagree –			Strongly – Disagree –			Chi Square
	W %	A %	O %	W %	A %	O %	W %	A %	O %	W %	A %	O %	
No one should be forced to submit to a blood test for AIDS no matter what the purpose.	3.3	13.0	10.0	10.0	41.0	20.0	28.3	12.0	30.0	58.3	34.0	40.0	42.8***
People are more concerned about AIDS than they need to be.	1.7	3.0	20.0	0.83	17.0	10.0	50.0	45.0	30.0	47.5	35.0	40.0	30.5***
I am concerned that I may have contracted the AIDS virus from a sexual partner.	0.0	10.2	0.0	5.8	17.3	30.0	65.8	40.8	60.0	28.3	31.6	10.0	29.9***
I believe AIDS is the most critical health problem on college campuses.	22.5	39.0	50.0	40.0	34.0	30.0	0.8	4.0	0.0	36.7	23.0	20.0	13.2*
Persons with AIDS should be treated in a separate hospital.	11.8	10.0	30.0	30.3	19.0	50.0	9.2	12.0	10.0	48.7	59.0	10.0	13.0*
Persons with AIDS should abstain from sex.	75.0	50.0	80.0	16.7	33.0	0.0	0.0	4.0	0.0	8.3	13.0	20.0	21.5***
It is important to discuss safe sex with my partner.	58.0	42.0	80.0	37.8	46.0	10.0	1.7	1.0	0.0	2.5	11.0	10.0	14.0*
I think it is important to reduce the number of one's sex partners.	52.1	35.4	20.0	40.3	49.5	70.0	0.8	6.1	0.0	6.7	9.1	10.0	12.7*
I would not live with someone who has AIDS.	29.2	16.3	50.0	38.3	28.6	20.0	2.5	14.3	10.0	30.0	40.8	20.0	20.5**
Persons with AIDS should not be allowed to work in public places.	7.5	7.0	20.0	28.3	15.0	40.0	7.5	17.0	10.0	56.7	61.0	30.0	13.3*

W = White (n_w = 120), A = African American (n_a = 101), O = Other (n_o = 11)

* Significant at < .05, **Significant at < .01, ***Significant at < .001

TABLE 7. AIDS Related *Attitudes* Among Athletes - University Comparisons (Whited Study: N=232)

Item	University Code	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Chi Square
No one should be forced to submit to a blood test for AIDS no matter what the purpose.	1	25.8	41.9	22.6	9.7	
	2	12.0	24.0	40.0	24.0	
	3	3.1	21.9	56.3	18.8	
	4	0.0	8.0	56.0	36.0	
	5	4.9	24.4	46.3	24.4	
	6	11.1	27.8	50.0	11.1	
	7	6.3	31.3	50.0	12.5	44.0***
Persons with AIDS should not be allowed to work in public places.	1	9.7	19.4	61.3	9.7	
	2	4.2	33.3	54.2	8.3	
	3	12.1	21.2	60.6	6.1	
	4	2.0	10.0	70.0	18.0	
	5	7.3	43.9	29.3	19.5	
	6	13.9	22.2	61.1	2.8	
	7	6.3	6.3	75.0	12.5	35.8**
I fear receiving a blood transfusion because of AIDS.	1	29.0	41.9	29.0	0.0	
	2	45.8	25.0	25.0	4.2	
	3	24.2	51.5	24.2	0.0	
	4	20.0	38.0	34.0	8.0	
	5	9.8	65.9	17.1	7.3	
	6	30.6	41.7	27.8	0.0	
	7	37.5	31.3	31.3	0.0	29.3*

TABLE 7 (continued).

Item	University Code	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Chi Square
I believe that AIDS education should be provided in the public schools.	1	41.9	58.1	0.0	0.0	
	2	48.0	52.0	0.0	0.0	
	3	46.9	37.5	9.4	6.3	
	4	62.0	38.0	0.0	0.0	
	5	31.7	51.2	12.2	4.9	
	6	51.4	48.6	0.0	0.0	
	7	68.8	25.0	6.3	0.0	34.3*
I think it is important to reduce the number of one's sex partners.	1	36.7	46.7	3.3	13.3	
	2	32.0	52.0	16.0	0.0	
	3	40.6	43.8	12.5	3.1	
	4	6.6	30.0	4.0	0.0	
	5	39.0	46.3	12.2	2.4	
	6	31.4	60.0	8.6	0.0	
	7	43.8	50.0	0.0	6.3	33.8*
Knowledge of AIDS will result in safer sexual practices.	1	61.3	35.5	3.2	0.0	
	2	66.7	33.3	0.0	0.0	
	3	39.4	54.5	6.1	0.0	
	4	44.0	56.0	0.0	0.0	
	5	53.7	26.8	14.6	4.9	
	6	58.3	38.9	2.8	0.0	
	7	62.5	31.3	0.0	6.3	34.6*

* Significant at < .05, **Significant at < .01, ***Significant at < .001

Behavior

The behavior section was presented using the two subheadings of the instrument for the participants' overall responses. Subheading percentage averages and important findings were noted. The student-athletes' overall percentage average for the two subheadings was 73.6%. Over 70% of the sample answered thirteen out of the eighteen items favorably. Five items were answered unfavorably by 36.3-58.3% of the sample. Last, the tests for association were divided into three subheadings: academic year, ethnicity, and university.

A. Efforts to Learn More.

Four items under the subheading Efforts to learn more were answered positively by 68.2% [Table 8]. Important positive findings included: student-athletes indicated that they had made special efforts to obtain knowledge about AIDS (53.9%), that they had viewed a TV program on AIDS (87.4%), that they had attended a lecture/seminar/workshop on AIDS (51.5%), and that they had had discussion about AIDS with their friends (80.0%).

B. Social and Work-Related Relationships.

Fourteen items under the subheading Social and Work-Related Relationships were answered positively by 75.6% [Table 8]. Ten items under the first section, social relationships, were answered positively by 74.4%. Important positive findings included: student-athletes indicated that concern about AIDS had changed their sexual behavior (70.6%); that they would not date someone if they knew they had multiple sex partners (63.7%); that if they had been exposed to AIDS, they would change their sexual behavior (89.1%); that they would limit their sexual activity (88.7%); that if they knew they had AIDS they would abstain from intercourse (82.2%); that they are more

TABLE 8. AIDS-Related *Behavior* Among Athletes (Whited Study: N=232)

Item	Yes		No	
	N	%	N	%
BEHAVIOR: EFFORTS TO LEARN MORE				
I have viewed a TV program on AIDS.	202	87.4	29	12.6
I have had discussions about AIDS with my friends.	184	80.0	46	20.0
I have made special efforts to obtain knowledge about AIDS.	124	53.9	106	46.1
I have attended a lecture/seminar/workshop on AIDS.	119	51.5	112	48.4
BEHAVIOR: SOCIAL AND WORK-RELATED RELATIONSHIPS				
I am more selective in choosing a dating partner because of my concern about contracting AIDS.	178	77.7	51	22.3
I would not date someone if I knew they had multiple sexual partners.	144	63.7	82	36.3
Concern about contracting AIDS has changed my sexual behavior.	163	70.6	68	29.4
Before engaging in intercourse with a new partner, I would discuss the issue of AIDS.	165	72.1	64	27.9
If I had AIDS, I would inform my partner.	207	90.0	23	10.0
If I had been exposed to AIDS, I would change my sexual behavior.	204	89.1	25	10.9
If I had AIDS, I would limit my sexual activity.	204	88.7	26	11.3
If I knew I had AIDS, I would abstain from intercourse.	189	82.2	41	17.8
I have increased my use of condoms because of AIDS.	171	75.0	57	25.0
Because of my concern about AIDS, I will obtain an AIDS blood test.	108	47.2	121	52.8
I touch people less because of a fear of contracting AIDS.	30	13.1	199	86.9
I would move if I discovered the person I was living with had AIDS.	95	41.7	133	58.3
I would refuse to work with a person who has AIDS.	60	26.1	170	73.9
If I knew someone who had AIDS, I would have absolutely no contact with them.	49	21.2	182	78.8

selective in choosing a dating partner because of their concern about contracting AIDS (77.7%); that they would discuss the issue of AIDS before engaging in intercourse with a new partner (72.1%); and that they had increased their use of condoms because of AIDS (75.0%). Yet, negative findings were observed, including: some student-athletes disagreed with the statement that if they had AIDS, they would inform their partner (10%) and that because of their concern about AIDS, they will obtain an AIDS blood test (47.2%).

Four items under the second section, living and work-related relationships with people with AIDS, were answered positively by 74.3% [Table 8]. The important negative findings included: that they would move if they discovered the person with whom they were living had AIDS (41.7%), that they would have absolutely no contact with someone whom they knew had AIDS (21.2%), that they would refuse to work with a person who has AIDS (26.1%), and that they touch people less because of a fear of contracting AIDS (13.1%).

Behavior Chi-square Analysis

In order to compare the relationship effect of behavior, chi-square analysis was used to test for associations between responses to the behavior items and three other variables (academic year, ethnicity, and university).

A. Academic Year.

A greater number of seniors tended to acknowledge discussion about AIDS with their friends ($p<.05$).

B. Ethnicity.

White student-athletes were more likely to agree that if they had AIDS they would limit their sexual activity ($p<.05$); that if they knew they had AIDS they would abstain from sexual activity ($p<.001$); that if they had been exposed to AIDS they would change their sexual behavior ($p<.05$); that they would inform their partner if they had AIDS ($p<.01$); and that before engaging in intercourse with a new partner they would discuss the issue of AIDS ($p<.01$) [Table 9]. African-American student-athletes were more likely to agree with the statement that because of their concern about AIDS, they will obtain an AIDS blood test ($p<.05$).

C. University.

The following were among the questions for which significant differences were observed among the universities: if they had been exposed to AIDS, they would change their sexual behavior ($p<.05$); if they had AIDS, they would inform their partner ($p<.01$); before engaging in intercourse with a new partner, they would discuss the issue of AIDS ($p<.05$); if they knew someone who had AIDS, they would have absolutely no contact with them ($p<.01$); they would move if they discovered the person they were living with had AIDS ($p<.05$); and they would refuse to work with a person who has AIDS ($p<.05$) [Table 10].

Sport-Specific Attitudes

Sport-Specific AIDS-related attitudes were different among student-athletes and ethnic groups [Table 11 and 12]. Nearly one-half of the student-athletes felt that HIV infected student-athletes should not be allowed to participate in intercollegiate athletics (47.9%) and a slightly lower percentage were unsure (31.0%). A high percentage of

TABLE 9. AIDS-Related *Behavior* Among Athletes - Ethnic Comparisons (Whited Study: N=232)

Item	Yes			No			Chi Square
	W %	A %	O %	W %	A %	O %	
If I had AIDS, I would limit my sexual activity.	97.5	78.8	80.0	2.5	21.2	20.0	19.6***
If I had been exposed to AIDS, I would change my sexual behavior.	94.1	81.8	100.0	5.9	0.0	18.2	9.7**
If I knew I had AIDS, I would abstain from intercourse.	90.8	72.0	80.0	9.2	28.0	20.0	13.2***
If I had AIDS, I would inform my partner.	95.8	82.8	100.0	4.2	17.2	0.0	11.7**
Before engaging in intercourse with a new partner, I would discuss the issue of AIDS.	77.1	63.0	100.0	22.9	37.0	0.0	9.4**
Because of my concern about AIDS, I will obtain an AIDS blood test.	40.8	57.1	30.0	59.2	42.9	70.0	7.0*

W = White (n_w = 120), A = African American (n_a = 101), O = Other (n_o = 11)

* Significant at < .05, **Significant at < .01, ***Significant at < .001

TABLE 10. AIDS-Related *Behavior* Among Athletes - University Comparisons (Whited Study: N=232)

Item / University Code	Yes							No							Chi Square
	1 %	2 %	3 %	4 %	5 %	6 %	7 %	1 %	2 %	3 %	4 %	5 %	6 %	7 %	
I would move if I discovered the person I was living with had AIDS.	34.5	58.3	45.5	26.0	42.5	58.3	31.3	65.5	41.7	54.5	74.0	57.5	41.7	68.8	13.4*
If I knew someone who had AIDS, I would have absolutely no contact with them	29.0	16.0	21.2	4.0	37.5	30.6	6.3	71.0	84.0	78.8	96.0	62.5	69.4	93.8	20.8**
I would refuse to work with a person who has AIDS.	33.3	36.0	21.2	10.0	37.5	30.6	18.8	66.7	64.0	78.8	90.0	62.5	69.4	81.3	12.7*
Before engaging in intercourse with a new partner, I would discuss the issue of AIDS.	54.8	68.0	69.7	90.0	78.9	63.9	62.5	45.2	32.0	30.3	10.0	21.1	36.1	37.5	15.7*
If I had been exposed to AIDS, I would change my sexual behavior	90.0	92.0	84.8	100.0	76.9	88.9	87.5	10.0	8.0	15.2	0.0	23.1	11.1	12.5	13.0*
If I had AIDS, I would inform my partner.	80.6	91.7	90.9	100.0	77.5	97.2	87.5	19.4	8.3	9.1	0.0	22.5	2.8	12.5	17.8**

* Significant at < .05, **Significant at < .01, ***Significant at < .001

TABLE 11. *Sports-Specific* AIDS Related Attitudes Among Athletes (Whited Study: N=232)

Item	Yes %	No %	Unsure %
Do you feel that HIV infected student-athletes should be allowed to participate in intercollegiate athletics?	21.1	47.9	31.0
Do you feel that student-athletes should be required to take an HIV blood test?	64.6	20.7	14.6
Do you feel that athletic departments should offer HIV blood tests to student-athletes?	90.9	4.8	4.3
Do you feel that trainers, coaches, and players have the right to know who is HIV positive?	61.1	25.6	13.4
Do you feel that condoms should be provided or dispensed in the training room?	67.5	20.8	11.7

TABLE 12. *Sports-Specific* AIDS Related Attitudes Among Athletes - Ethnic Comparisons (Whited Study: N=232)

Item	Yes			No			Unsure			Chi Square
	W %	A %	O %	W %	A %	O %	W %	A %	O %	
Do you feel that trainers, coaches, and players have the right to know who is HIV positive?	75.0	44.0	60.0	15.8	37.0	30.0	9.2	19.0	10.0	22.2***
Do you feel that student-athletes should be required to take an HIV blood test?	75.0	52.5	70.0	13.3	28.7	20.0	11.7	18.8	10.0	12.8*
Do you feel that athletic departments should offer HIV blood tests to student-athletes?	96.7	85.0	90.0	3.3	6.0	0.0	0.0	9.0	10.0	13.1*
Do you feel that condoms should be provided or dispensed in the training room?	57.5	79.0	80.0	26.7	14.0	10.0	15.8	7.0	10.0	12.4*

W = White (n_w = 120), A = African American (n_a = 101), O = Other (n_o = 11)

* Significant at < .05, **Significant at < .01, ***Significant at < .001

student-athletes agreed that student-athletes should be required to take a HIV blood test (64.6%). An extremely high percentage of the student-athletes felt that the athletic department should offer the opportunity for student athletes to receive a HIV blood test (90.9%). Over one-half of the student-athletes felt that trainers, coaches, and players have the right to know who is HIV positive (61.1%). A similar percentage of student-athletes believed that condoms should be provided or dispensed in the training room (67.5%).

Sport-Specific Attitudes Chi-square Analysis

In order to compare the relationship effect of sport-specific attitudes, chi-square analysis was used to test for associations between responses to the sport-specific attitude items and three other variables (academic year, ethnicity, and university).

A. Academic Year.

No significant differences between freshmen and senior responses were observed.

B. Ethnicity.

White student-athletes were more likely to agree that trainers, coaches, and players have the right to know who is HIV positive ($p<.001$), that student-athletes should be required to take an HIV blood test ($p<.05$), and that athletic departments should offer the opportunity for student-athletes to receive a HIV blood test ($p<.05$) [Table 12]. African-American student-athletes were more likely to agree that condoms should be provided or dispensed in the training room ($p<.05$).

C. University.

The following were among the questions for which significant differences were observed among the universities: condoms should be provided or dispensed in the training room ($p<.001$), HIV-infected student-athletes should be allowed to participate in intercollegiate athletics ($p<.01$), student-athletes should be required to take a HIV blood test ($p<.05$), and trainers, coaches, and players have the right to know who is HIV positive ($p<.01$) [Table 13].

Knowledge Source

Over three-fourths of the student-athletes acknowledged that they had been taught about HIV infection or AIDS in high school (77.8%) [Tables 14 and 15]. Only one-half of the student-athletes acknowledged that they had been taught about HIV infection or AIDS in college (54.5%). The student-athletes indicated that they have learned the most about HIV/AIDS from: TV/Radio (62.7%), Magazines (14.4%), Team Physicians/Trainers (11.4%), Scientific Journals (6.2%), and Newspapers (5.2%). Note that a fairly low percentage of student-athletes indicated that they had learned the most about HIV/AIDS from Team Physicians/Trainers (11.4%). Student-athletes responded that, if they had a problem or fear about HIV infection or AIDS, the community resource to which they would turn first was: Other (31%), Planned Parenthood/Health Department (27.1%), Team Physician (17.9%), Church (17.4%), and Staff Trainer (6.5%). A very high percentage of student-athletes felt that there is a need for more HIV/AIDS education among student-athletes (84.7%). The preferred way to learn about HIV/AIDS among student-athletes was: Reading materials/TV/Radio (46%), Parents/Family (20.6%), Team Physicians (18.4%), Head Athletic Trainer (9.7%), and Church (5.2%).

TABLE 13. ***Sports-Specific*** **AIDS Related Attitudes Among Athletes - University Comparisons (Whited Study: N=232)**

Item	University Code	Yes %	No %	Unsure %	Chi Square
Do you feel that condoms should be provided or dispensed in the training room?	1	77.4	9.7	12.9	
	2	80.0	12.0	8.0	
	3	69.7	27.3	3.0	
	4	44.0	28.0	28.0	
	5	62.5	32.5	5.0	
	6	88.9	8.3	2.8	
	7	62.5	18.8	18.8	36.3***
Do you feel that HIV infected student-athletes should be allowed to participate in intercollegiate athletics?	1	19.4	41.9	38.7	
	2	12.0	52.0	36.0	
	3	15.2	63.6	21.2	
	4	36.0	26.0	38.0	
	5	26.8	58.5	14.6	
	6	8.3	58.3	33.3	
	7	18.8	37.5	43.8	26.5**

TABLE 13 (continued).

Item	University Code	Yes %	No %	Unsure %	Chi Square
Do you feel that student-athletes should be required to take an HIV blood test?	1	38.7	25.8	35.5	
	2	56.0	28.0	16.0	
	3	81.8	15.2	3.0	
	4	74.0	10.0	16.0	
	5	68.3	26.8	4.9	
	6	61.1	22.2	16.7	
	7	62.5	25.0	12.5	26.2*
Do you feel that trainers, coaches, and players have the right to know who is HIV+?	1	48.4	32.3	19.4	
	2	36.0	36.0	28.0	
	3	51.5	33.3	15.2	
	4	88.0	8.0	4.0	
	5	72.5	17.5	10.0	
	6	52.8	36.1	11.1	
	7	50.0	31.3	18.1	31.6**

* Significant at < .05, **Significant at < .01, ***Significant at < .001

TABLE 14. HIV/AIDS *Knowledge Source* Among Athletes (Whited Study: N=232)

Item	Yes %	No %	Unsure %
Have you been taught about HIV infection or AIDS in high school?	77.8	18.7	3.5
Have you been taught about HIV infection or AIDS in college?	54.5	42.5	3.0
Do you feel that there is a need for more HIV/AIDS education among student-athletes?	84.7	7.9	7.4

From what source have you learned the most about HIV/AIDS?

TV/Radio	62.7	Scientific Journals	6.2	Newspapers	5.2	Magazines	14.4	Team Physicians/Trainers	11.4

If you had a problem or fear about HIV/AIDS, which resource would you turn to first?

Church	17.4	Team Physician	17.9	Staff Trainer	6.5	Health Dept.	27.1	Other	31.0

What is your preferred way to learn about HIV/AIDS?

Church	5.2	Team Physician	18.4	Parents/Family	20.6	Media	46.0	Head Athletic Trainer	9.7

TABLE 15. HIV/AIDS *Knowledge Source* Among Athletes - Academic Year Comparisons (Whited Study: N=232)

Item	Yes F %	Yes S %	No F %	No S %	Unsure F %	Unsure S %	Chi Square
Have you been taught about HIV infection or AIDS in high school?	86.9	64.5	11.7	29.0	1.5	6.5	16.4***
Have you been taught about HIV infection or AIDS in college?	44.5	69.1	52.6	27.7	2.9	3.2	14.4***

F = Freshman Year (n_f = 138), S = Senior Year (n_s = 94)

* Significant at < .05, **Significant at < .01, ***Significant at < .001

Knowledge Source Chi-square Analysis

In order to compare the relationship effect of knowledge source, chi-square analysis was used to test for associations between responses to the knowledge source items and three other variables (academic year, ethnicity, and university).

A. Academic Year.

Freshmen agreed more than seniors that they had been taught about HIV infection or AIDS in high school ($p<.001$) and disagreed more that they had been taught about HIV infection or AIDS in college ($p<.001$) [Table 15].

B. Ethnicity.

African-American student-athletes agreed more than white student-athletes that they had been taught about HIV infection or AIDS in college ($p<.05$).

C. University.

The following were among the questions for which significant differences were observed among the universities: have they been taught about HIV infection or AIDS in college ($p<.05$) and from what source had they learned the most about HIV/AIDS ($p<.05$) [Tables 16 and 17].

TABLE 16. HIV/AIDS *Knowledge Source* Among Athletes - University Comparisons (Whited Study: N=232)

Item	University Code	Yes %	No %	Unsure %	Chi Square
Have you been taught about HIV infection or AIDS in college?	1	77.4	16.1	6.5	
	2	52.0	48.0	0.0	
	3	40.6	56.3	3.1	
	4	64.0	36.0	0.0	
	5	39.0	53.7	7.3	
	6	52.8	47.2	0.0	
	7	56.3	37.5	6.3	23.1*

* Significant at < .05, **Significant at < .01, ***Significant at < .001

TABLE 17. HIV/AIDS *Knowledge Source* Among Athletes - University Comparisons (Whited Study: N=232)

Item	University Code	A %	B %	C %	D %	E %	Chi Square
From what source have you learned the most about HIV/AIDS?	1	48.4	16.1	32.3	3.2	0.0	
	2	88.0	8.0	0.0	0.0	4.0	
	3	68.8	18.8	3.1	6.3	3.1	
	4	52.1	16.7	16.7	8.3	6.3	
	5	55.0	12.5	10.0	12.5	10.0	
	6	66.7	19.4	5.6	5.6	2.8	
	7	81.3	0.0	6.3	0.0	12.5	41.4*

A = TV/Radio, B = Magazines, C =Team Physicians/Trainers, D = Scientific Journals, E = Newspapers

* Significant at < .05, **Significant at < .01, ***Significant at < .001

Summary

This chapter contained the results of the study, primarily the assessment of the knowledge, attitudes, and behaviors of college football athletes regarding HIV/AIDS. Using chi-square analysis, tests for association between responses for the five survey sections of the instrument were completed. This analysis revealed highly significant associations between the responses and three other variables (academic year, ethnicity, and university).

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter is divided into four sections. The first section is a summary of the study. The second section is the findings of the study. In the third section, the conclusions relative to the findings will be presented. In the fourth section, recommendations will be presented.

Summary of the Study

AIDS is the leading cause of death in the age group 25-44 years, fifth in the age group 15-24 years, and first in some metropolitan areas (CDC, 1992, 1995). Mass media attention on the emergence and impact of HIV into the athletic arena has erupted into discussions and debates on such issues as transmission of HIV in athletics, mandatory HIV testing, disclosure of infected status, and exclusion from sports participation. Furthermore, the media and the quest for answers has researchers and educators evaluating the preventative side of HIV infection by examining present institutions' blood-borne pathogen regulations, AIDS education in athletics, and lifestyle and health risks of athletes.

Many lifestyle behavior patterns that develop during the early teenage and collegiate years have a direct effect on the quality and quantity of years of life. The progression of AIDS can be altered through preventive measures. In an effort to understand sexual behavior and to evaluate the efficacy of these preventive measures, knowledge, attitudes, and behavior surveys about HIV infection and AIDS have been conducted in

college populations. However, assessments of these surveys were not apparent in the review of literature. Only a handful of studies about lifestyles and health risks of students-athletes and their counterpart, non-athletes are just now beginning to appear.

The primary problem of this study was to assess the current level of knowledge, attitudes, and behaviors related to HIV infection and AIDS among representative freshmen and senior football student-athletes from institutions in the Southeastern Conference. The secondary purpose was to assess student-athletes' sport-specific attitudes and knowledge source related to HIV infection and AIDS. To accomplish the purposes of this study, the following five research questions were formulated:

1. What is the current level of knowledge among student-athletes, as measured by the modified DiClemente (1986) AIDS Survey, concerning AIDS and HIV infection?
2. What perceived AIDS-related attitudes, as measured by the AIDS-Related Attitudes Instrument, are prevalent among Southeastern Conference football student-athletes?
3. What perceived AIDS-related behaviors, as measured by the AIDS-Related Behavior Instrument, are prevalent among Southeastern Conference football student-athletes?
4. What are the sport-specific attitudes of Southeastern Conference football student-athletes in reference to HIV infection and AIDS?
5. Where have respondents acquired their information about AIDS?

To achieve this purpose, a five-section survey was used. The findings of this study are reported in separate sections which coincide with the research questions in Chapter IV. The side headings in Chapter IV included: Knowledge (What is AIDS?, How

can you get AIDS?, How can you prevent AIDS?, How can AIDS be treated, Who gets AIDS, and How does AIDS affect People?), Attitudes (Quarantine/Isolation, Magnitude of Problem/Concern, Education/Knowledge, and Sex/Safer Sex), Behavior (Efforts to Learn More and Social and Work-Related Relationships), Sport-Specific Attitudes, and Knowledge Source.

To gather data, the student-athletes from seven Southeastern Conference institutions were selected by a convenience sampling technique. The group consisted of 138 freshmen and 94 seniors. The group was broken down into the following categories: overall population, academic year, ethnicity, and university. Each item on the AIDS-Related Knowledge, Attitude, and Behavior Survey and the Sport-Specific Attitudes and Knowledge Source Sections was analyzed to determine if it was related to academic year, ethnicity, or university. Data received from the sample were scored by percentage frequencies and chi-square analysis, using the SPSS 7.0 version and Microsoft Excel.

Findings

The findings section will be addressed according to the five research questions in numerical order.

A. Research Question 1: What is the current level of knowledge among student-athletes, as measured by the modified DiClemente (1986) AIDS Survey, concerning AIDS and HIV infection?

1. Overall Population. Overall, knowledge levels were moderate to high, with >90% of the sample answering 25 out of the 31 total items correctly and a 90.7% average for all six subheadings.

2. Academic Year. No findings were reported.

3. Ethnicity. White and African-American athletes respondents differed on responses to four items. White athletes were more likely to answer correctly about what is AIDS, how can you get AIDS, how AIDS can be treated, and who gets AIDS.

4. University. Respondents from different universities varied on responses to four items within the following subcategory: how can you get AIDS, who gets AIDS, and how does AIDS affect people.

B. Research Question 2: What perceived AIDS-related attitudes, as measured by the AIDS-Related Attitudes Instrument, are prevalent among Southeastern Conference football student-athletes?

1. Overall Population. The attitude levels of the student-athletes concerning HIV infection and AIDS were moderately positive overall. The average overall attitude percent was 80.2% and ranged from 70.1-85.0%. The majority of student-athletes in this study understand the magnitude of the problem and demonstrated a concern for HIV infection and AIDS issues. A majority of students also understand the

importance of AIDS education. The highest percentage was found in the sex/safer sex subheading, as it appears that most student-athletes perceive a risk of HIV infection and feel confident about reducing their risk of exposure.

2. Academic Year. Results indicated that seniors were more concerned that they had contracted the AIDS virus from a sexual partner than were freshmen.

3. Ethnicity. White and African-American athletes respondents differed on ten items. White athletes were more likely to agree on quarantine/isolation, magnitude of problem/concern, and sex/safer sex items. African-American athletes were more likely to disagree on quarantine/isolation and sex/safer sex items.

4. Universities. Respondents from different universities varied on responses to six items within the following subcategory: quarantine/isolation, education/knowledge, and sex/safer sex.

C. Research Question 3: What perceived AIDS-related behaviors, as measured by the AIDS-Related Behavior Instrument, are prevalent among Southeastern Conference football student-athletes?

1. Overall Population. The behavior levels of student-athletes concerning efforts to learn more and social and work-related relationships were average to poor overall, with >70% of the sample answering thirteen out of the eighteen total items favorable. Five items were answered unfavorably by 36.3-58.3% of the sample. Over one-half of the population had not made special efforts to obtain knowledge about AIDS and had not attended a lecture/seminar/workshop on AIDS. Over one-third of the population answered unfavorably to the item concerning dating someone who had multiple sex

partners. Over one-half of the population answered unfavorably to the items concerning obtaining an AIDS blood test and living with a person who has AIDS.

2. Academic Year. Results indicated that seniors tended to acknowledge discussion about AIDS with their friends more than did freshmen.

3. Ethnicity. White and African-American student-athletes respondents differed on responses to six items. White student-athletes were more likely to change their social and work-related relationships if they had AIDS by limiting, changing, and/or abstaining from their sexual activity and behavior. Additionally, white student-athletes were more likely to inform and discuss AIDS with their partners. African-American student-athletes were more likely to agree that because of their concern about AIDS, they will obtain an AIDS blood test.

4. Universities. Respondents from different universities varied on responses to six items within the social and work-relationship subcategory, including: informing partner of HIV status, changing sexual behavior, discussing AIDS with partners, and tolerating AIDS in the home or workplace and in casual contact.

D. Research Question 4: What are the sport-specific attitudes of Southeastern Conference football student-athletes in reference to HIV infection and AIDS?

1. Overall Population. Overall, the majority of the student-athletes agreed with the following sport-specific attitudes: participation exclusion of HIV-positive student-athletes, mandatory HIV testing of student-athletes, disclosure of an HIV-positive student-athlete's status, and condom dispensing in the training room.

2. Academic Year. No findings were reported.

3. Ethnicity. White and African-American student-athletes respondents differed on responses to four items. White student-athletes were more likely to agree with mandatory athletic department HIV testing and disclosure of an HIV-positive student-athlete's status. African-American student-athletes were more likely to agree with condom dispensing in the training room.

4. University. Respondents from different universities varied on responses to four items that included: participation exclusion of HIV positive student-athletes, mandatory HIV testing of student-athletes, disclosure of an HIV-positive student-athlete's status, and condom dispensing in the training room.

E. Research Question 5: Where have respondents acquired their information about AIDS?

1. Overall Population. The majority of the student-athletes reported that they had been taught about HIV infection or AIDS in high school (77.8%). Only one-half of the student-athletes reported that they had been taught about HIV infection or AIDS in college (54.5%). The majority of the student-athletes indicated that they had learned most about HIV/AIDS from mass-media sources (88.5%). The majority of the student-athletes (75.5%) reported that, if they had a problem or fear about HIV infection or AIDS, they would turn to an outside community resource (other, Planned Parenthood/health department, church). Nearly one-half of the student-athletes indicated that their preferred way to learn about HIV/AIDS was from media sources (46.5%). Interestingly, college medical resources were reported the least as sources of learning (11.4%) or assistance (24.4%). However, college medical resources were

ranked second for preferred way to learn about HIV/AIDS among student-athletes. The majority of student-athletes indicated a need for more HIV/AIDS education among student-athletes (84.7%).

2. Academic Year. These findings show that freshmen were more likely to have been taught about HIV infection or AIDS in high school and not at the college level.

3. Ethnicity. White and African-American student-athletes respondents differed on responses to one item. African-American student-athletes were more likely to have been taught about HIV infection or AIDS in college.

4. University. Respondents from different universities varied on responses to two items that included: college HIV infection or AIDS education and preferred learning source.

Conclusions

Based on the study's findings, the following conclusions were drawn:

1. Most student-athletes have a moderate to high level of knowledge concerning HIV infection and AIDS.

2. This study concluded that attitudes concerning the AIDS epidemic are moving considerably in a positive direction, as a majority of those student-athletes sampled showed concern, and reported changes in sexual behavior to reduce contraction and transmission of HIV.

3. Although results of this study indicate that significant percentages of student-athletes perceive susceptibility to HIV infection, lack of changes in social and work-relationships issues and lack of efforts to learn more indicate high risk in sexual behaviors. This study concluded that different lifestyles, health risks, and inability to communicate with partner can influence sexual behavior.

4. Participation exclusion of HIV-positive student-athletes, mandatory athletic department HIV testing, and disclosure of an HIV-positive student-athlete's status are views that are based on basic knowledge concepts, a lack of fact-based, non-judgmental information and a lack of information on legal aspects of these issues. Training room distribution of condoms was favored by student-athletes as a preventative measure and a health care service.

5. Interestingly, the majority of the student-athletes indicated a need for more HIV/AIDS education among student-athletes, since HIV/AIDS education was only moderately provided on the high school level and delinquent on the college level. This study concluded that college medical resources were not providing their student-athletes with AIDS education, even though student-athletes preferred their input and advice. Mass-media-type sources, reading materials, television, radio, scientific journals, and newspapers were the most readily used and preferred by student-athletes to obtain information about HIV infection and AIDS.

Recommendations

1. The results of this study reflect the findings of previous studies, which indicate that while overall knowledge of AIDS among athletes is present, information still

needs to be provided to student-athletes concerning what AIDS is, how you can get AIDS, how AIDS is treated, and who gets AIDS.

2. The importance of developing positive attitudes with quarantine/isolation, magnitude of problem/concern, and sex/safer sex issues is critical, since previous researched has shown attitudes that influence behavior. Previous research with athletic populations shows that small group discussions and role-playing help student-athletes modify attitudes and behaviors. Groups led by upperclassmen, by team captains, or position coaches may be effective in this regard. Since few intervention studies have been conducted among college student-athletes in regard to unhealthy lifestyles and risky behaviors, additional research could focus on testing the effectiveness of various strategies for presenting AIDS information to a specific targeted population.

3. As with attitudes, pragmatic reasoning skills, broad socialization methods, and affective and psychomotor skills need to be incorporated along with cognitive skills to facilitate and enhance the likelihood of behavior and lifestyle change among student-athletes. A consistent finding regarding behavior is that a higher level of knowledge and positive attitudes do not necessarily translate into safe sex behavior. Therefore, additional intervention studies need to performed in reference to behavior patterns, lifestyles, and health risk-taking of student-athletes.

4. The need for student-athletes' health care providers and educators to accurately address HIV/AIDS issues, with special emphasis on legal and treatment issues, is imperative. Medical staff distribution and easy access and availability of condoms might increase student-athletes' usage and possibility decrease unwanted

pregnancies, sexually transmitted diseases, and HIV transmission. Distribution of condoms by the medical staff, in conjunction with intervention strategies, could positively improve knowledge, attitudes, and behaviors related to HIV infection and AIDS.

5. Holistic health care delivery systems for all student-athletes, individualizing programs for those who are at risk socially, academically, and/or athletically, need to be developed utilizing HIV/AIDS intervention strategies involving multidisciplinary teams of health care providers and educators, athletic administrators, coaches, peers, and family members. The purpose of this holistic health care is to create an all-out Athletics Department effort to embrace, confront, and contain athletic, academic, and personal difficulty issues among student-athletes. With thorough education, encouragement and discipline, student-athletes can earn a degree from their academic institution, attain a high level of accountable behavior designed for success as a team player and in today's society, and learn to choose and follow positive pathways, thus developing themselves "physically and mentally to successfully meet the challenges of life." Additionally, an evaluation of the program, including observations concerning changes of level of knowledge, attitude, and behaviors of student-athletes and staff, needs to be implemented annually.

CHAPTER VI

RETROSPECTIVE

Introduction

The most frequently asked questions, lately, are what, when, how, whom, and why? An attempt will be made to answer the last question, why. This chapter will begin to answer issues that pertain to HIV/AIDS in athletics. The second section of the chapter will discuss a "crystal ball" perspective about the results and participation. The third section of the chapter will address possible conclusions about academic year, ethnicity, and university differences among knowledge, attitudes, behaviors, sport-specific attitudes, and knowledge source pertaining to HIV infection and AIDS. A comparison of the present study to previous studies, as well as previous studies of athlete/non-athlete comparisons, will be examined in the fourth section. Finally, the chapter will conclude with suggestions for future research.

Issues Over HIV/AIDS in Athletics:

Masculinity? Controversy? Sensitivity? Accountability? Expendability? Invincibility? Righteousness?

Call it instinct, women's or tomboy's intuition, northern street sense; a sixty-five year old man trapped in a woman's body; the ability to observe excessive masculinity--I've found all these qualities to be advantageous in studying this population. It's my experience that ignorance and arrogance never serve anyone well; however, in this case, when athletes engage in inappropriate and unhealthy behavior, it is my observation that often the coaches and others in authority try to justify or deny the behavior rather than deal with it and its consequences on a realistic level. It's when

the system and the athlete try to justify a behavior that is not justifiable that trouble sets in. Mistakes such as these can destroy a fine athletic program, as the program takes on a defensive stance instead of a corrective one. Each athlete has the potential for improvement. What is the fair sentence should be based on the individual, what the real offense is, the individual's record, and the likelihood of recurrence of inappropriate, unhealthy behavior.

And the hardest item to come to grips with is that, once the system locks in, winning and pass protection becomes the goal, attitudes and behaviors are overlooked or mishandled, and serious procedural, judgmental, and investigative mistakes are made. And that is strategically foolish as well detrimental towards the overall big picture for the athletes and their life after college athletics. In raising the evaluation and intervention of athletes behavior, we are challenging the validity of the system and the credibility of the officers. Such disagreements on cultural barriers, evaluations of the systems, and asking risky, open-ended questions can only result in synthesis ultimately benefiting our student-athletes. This is sheer brilliance without contamination, compromise, and corruption. Being a team player doesn't mean being soft on our athletes. It means placing hard accountabilities, challenging them on their innate values and moral and ethical decisions. "Best friend" and "valuable employee" are not in my job description. Besides, what is the definition of a "valuable employee"?

One sensitive area that needs to be addressed by student-athlete health care providers and educators was discussed in Chapter Seven: Men with Men: Friendships and Fears of Men's Lives (1995). The opening abstract of this chapter states that "If men's power over women and other men (sexism and homophobia) are among the central elements in the construction of masculinity, then we must also address the negative

consequences of male-male intimacy." It continues by discussing an article by Chris O'Sullivan, who reports that "collegiate groups that stress homosocial intimacy (fraternities and athletic teams) have a higher incidence of sexual assault than other groups," and the author Greg Herek suggests that "homophobia often has violent consequences for men perceived as gay." The ironic experience of gay men in athletics was also discussed in Part Three, Article 13, by Brian Pronger (1995), who states that "The history of homosexuality has constructed a less than positive and healthy conception of the homosexual man, whereas the popular image of the athlete is quintessentially healthy and positive." Interestingly, Pronger observes that "the fact that men may find it sexually stimulating to be in a locker room full of other naked male athletes is either ignored or sublimated through aggressive, homophobic, and sexist humor." With these findings in mind, and with the increase in heterosexual HIV transmission, the need for HIV/AIDS education with specific targeting needs for male contact sport participants is critical.

If the findings of most AIDS-related KAB (knowledge, attitudes, and behavior) surveys determine that high levels of knowledge and positive attitudes do not necessarily translate into safer sex behavior, why, then, do student-athletes engage in high-risk behavior and unhealthy lifestyles? Are there precursors and pre-existing variables that escalate when they arrive on the college campuses? Do the environment, the pressures of athletics, and the high-profile notoriety overwhelm the athlete? Does society hold athletes to a different standard? Dennis Rodman, present NBA athlete and author of Bad As I Wanna Be, presents an interesting view-point on why people look up to athletes. He states that "more than anything else, people play sports and listen to music when they're looking to escape their lives. Or they watch sports and read about sports and talk about sports." Perhaps people expect and

demand perfection and "god-like" behavior from the event and its participants to whom they turn the most when they are escaping from their own reality and "real world." If this is the case, how can the general population expect "real world" behavior from a not-so-real world? Rodman continues to discuss the issue of AIDS in athletics by stating that fame, ego, money, attention, women, lack of accountability, and invincibility are what makes an athlete believe that "You can't die. You can't get AIDS, so you don't have to protect yourself. You just keep doing what you're doing." (Rodman, 1996).

"Everybody has an image in their mind of what it means to be an athlete in our society" is the statement that begins Rodman's chapter nine, titled "Man on Man: Painted Fingernails and the Status Quo." He says that he likes to challenge people's image of what an athlete is supposed to be by being different and expressive. As he explores life from multi-dimensional perspectives in his quest to feel like "a total person" and "whole individual," Rodman takes sports viewers on a journey not quite like any they ever have seen before, exploring such controversial issues as HIV, racism, sexism, and homophobia. Rodman shows that he is comfortable dealing with different people in different situations without judgment and bias. If the ability to adapt to change and be that "all-purpose person" is allowed, perhaps, a storm of diverse, culturally vibrant athletes, who are different, will dominate and make a difference on and off the field through the proud ownership of ones self. Maybe then, the athletes will truly be as "bad as they wanna be."

Approaching a controversial and sensitive topic such as HIV/AIDS among a masculine population, questioning accountability, Expendability, and one's feelings of invincibility and righteousness, is very similar to a battleground. As you enter the

midway point of the battlefield, you notice that the soldiers have retreated or have different faces. Barriers and stones that you have overturned reveal other meanings. Beneath your feet is the gridiron, and your courage is under fire with every play. These situations stand as testaments to Michael Kearn's philosophy that it is the administrator's (actor's) "responsibility to play all things human" in the attempt to demystify and reduce HIV/AIDS in athletics by initially shattering stereotypes, racism, sexism, and homophobia.

One may feel that evaluating the system in search of intervention strategies to minimize college athletes at risk is a form of generalization. But, as one sports columnist said "the very essence of athletics is generalization." When Attila was conquered, many philosophers and historians evaluated his strategic skills for strengths and weakness. They discovered that Attila's greatness lay in his remarkable insight into the potentialities of his people and their inviolable allegiance to him (Thompson, 1996). The answer to why it happens might lie within the system and it leaders, since it is no longer the question whether it happens. Eventually, it will take the brave hearts of administrators to break the cultural barriers, the courage of the media to document the truth, and the population to acknowledge it. Meanwhile, only a few see the endzone.

Besides discovering the power of statistical analysis, understanding that the contest is not about mass or weight, it's about the power of honesty, integrity, truthfulness, and loyalty is what that make the eagle soar to its greater heights. Sometimes passion for the truth and quest for challenges and pioneering lead one to take positions that are painful to watch by family, friends, administrators, and the general population. Was a sixth sense that this plague would hit so close to home, the reason that drew one to

this controversial issue like a magnet? One could see the negative energy that was developing in this self-viewed immortal and invincible amateur boxer and race car driver with the high risk-taking, self-destructive behavior and inability to control his anger and aggression. Perhaps these reasons are what drove one fiercely and expeditiously into the profession. However carefree, without any real warning, while driving down the pathway a discovery was found--the vehicle was self-propelled with pre-programmed, automatic steering. Whatever happened to power steering? One can only hope they will allow the Powers Above to steer.

The "Crystal Ball" about Results

I was most surprised about the percentage of athletes who believed that they had contracted the virus from a sexual partner. It appears that the student-athletes perceive themselves at risk, understand the dangers involved and are knowledgeable on the warning signs; however, they are reluctant to sacrifice their sexual pleasure for safety. Student-athletes understand the warning statements that are read to them about participating in a collision sport and the possible risks of injury, paralysis, and/or death. They are trained and scrutinized constantly, by coaches, trainers, media, and officials, on preventative techniques and skills to avoid these devastating injuries. To them, these risks seem so small, infinite, and far away. It has been proven that athletes are a high-risk population, like homosexuals and intravenous drug users, for HIV infection and transmission; why then, the delay of information and the reluctance to be concerned by coaches, administrators, staff, and peers?

At the time that this study was presented to the Southeastern Conference in the fall of 1993, literature was just beginning to appear about HIV in athletics. Institutions were

just beginning to realize that illegal recreational drug use among student-athletes was decreasing and that excessive alcohol consumption and sex behavior problems, disease progression and violence were rising. We appear to have not a drug problem, but a sex problem on our hands. Trainers and administrators at the time believed that they could screen and medically disqualify the HIV-positive student-athlete—the accountable then expendable technique. They were unaware of the legal consequences and the cost of health care. Treatment cost of HIV-positive athletes far surpasses costs for preventive education. Reluctance to participate in this study may have been the result of fear, ignorance, arrogance, sensitivity to or controversy of the issues, and/or concern about recruiting issues. Perhaps, masculinity clouded the issue and men were not "man enough" to deal with the issues. Maybe the corporate side of the business opposed the idea. Maybe intercollegiate athletics motives, objectives, and concerns have tilted the balance toward powers of winning, money, fame, ego, and power as opposed to the well-being of the athletes.

As the popularity of the Olympic games grew during Ancient Greece, the demand and supply for specificity and professionalism developed accordingly in the field of athlete's health care. Similar to the ancient period, athletes today are surrounded by a medical staff consisting of a mix of medical abilities, interpersonal skills, and personalities. From the ancient Greek gymnates and paidotribes to the modern day athletic trainers, their primarily goals were to protect the athletes' health by providing them with multiple aspects of health disciplines. Along with the advancement of games in a competitive and professional sense, the ancient Greek athlete began to make a clear distinction between himself and the ordinary man with exercise, diet, and other lifestyle patterns. Even though the gymnastes and paidotribes demanded a great amount from their students, the athletes respected and were confident in their work by

honoring them with statues placed next to theirs in front of the Temple of Zeus. Even the famous sportswriter of that day, Pindar, praised the victories to the athletes as well as to their gymnastes and paidotribes.

Perhaps the evolution of athletic training from the ancient to the modern Olympic games has changed the focus of concern. However, as described above, it appears that little change has occurred in the system and with the athletes. This study revealed that athletes are aware of the demands of the sport and their perceived distinctive high-risk lifestyle patterns. This study also revealed that athletes look to their medical staff for education and resources. One difference noted was that ancient Greek athletes followed strict regulations that included abstinence from sexual activity during the summer months in order to maintain strength. This idea might be too extreme, but some of the other ancient Olympic fundamentals could be applied. In ancient Greece, performing naked in an exclusively male-dominated event from a participant and spectator perspective existed. To this day, you still see the positive and negative effects and impact of ancient Greece on the modern-day Olympics.

If student-athletes are informed about HIV/AIDS and their level of knowledge increases, attitudes and behaviors may be positively influenced. In addition to providing student-athletes with accurate HIV/AIDS information, techniques that focus on pragmatic reasoning skills and broad socialization methods will help student-athletes appreciate the need for being concerned and socially responsible in reducing the numerous risks and non-cautious lifestyles. Additionally, student-athlete health care providers and educators need to double their efforts in promoting safer sex practices, since the rates of heterosexual HIV transmission are rising in the United States, particularly among young adults (CDC, 1996). Over 75% of all AIDS cases in

the world can be attributed to heterosexual transmission (World Health Organization, 1991).

Academic Year Differences among Knowledge, Attitudes, and Behaviors

A. Knowledge.

The number of years of education of a student-athlete did not appear to effect the level of knowledge.

B. Attitudes.

The study also concluded that the greater concern of HIV infection and contraction by seniors may be attributed to their age, time passage, and period of limited AIDS awareness, possibly resulting in minimal safe sex over their collegiate years. Approximately four to five years ago, at the time of their institutional enrollment, there was a time gap in which they might not have received any form of AIDS information. For example, freshmen were more likely to respond that they had received AIDS information in high school than were seniors.

C. Behavior.

This study concluded that greater HIV/AIDS discussions with friends by seniors appears to derive from the number of social relationships that they had obtained throughout their collegiate years.

D. Sport-Specific Attitudes.

The number of years of education of a student-athlete did not appear to effect their perceived sport-specific attitudes. Mandatory athletic department HIV testing and

disclosure of an HIV-positive student-athlete's status might have been selected on basic knowledge concepts and lack of information on legal issues. These attitudes may be viewed in a positive or negative sense. However, early detection of the virus can result in early intervention care and possible prevention of future transmission. Testing the athlete and medical staff awareness of the results may be beneficial to the athlete by providing a quality health care delivery system resulting in performance improvement. However, on the other side, screening and disclosing information about HIV-positive athletes may create misconceptions, stereotypes, prejudice, discrimination, and hostility due to a lack of fact-based, non-judgmental information among administrators, coaching staff, and peers.

E. Knowledge Source.

Freshmen were more likely to agree that they had received HIV education in high school but not on the college level. Recently, educational programs and curriculums have been developed on the high school level addressing HIV transmission and prevention. Perhaps first-semester freshmen who participated in this study might not yet have enrolled in a college class that delivered HIV education while completing this survey.

Ethnic Differences among Knowledge

Ethnicity differences among knowledge showed that white student-athletes had a higher level of knowledge concerning HIV infection and AIDS than African-American student-athletes on this particular survey. However, lack of notable research and information regarding factors that might be responsible for observed race/ethnic differences in AIDS knowledge or about facts that facilitate the spread of AIDS

among African-Americans has made it difficult to draw any unbiased conclusions (Johnson, 1993). Additionally, Johnson suggested that assessments among ethnic groups should "be accomplished within the context of studies where the aims are to understand individuals within a specific race/or ethnic group rather than attempt to understand the behavior of African-Americans by comparing their behavior with information from white control groups (Johnson, 1993). Additional research and information regarding factors that might be responsible for observed race/ethnic differences in AIDS knowledge or about facts that facilitate the spread of AIDS among African-Americans need to be performed.

Ethnic Differences among Attitudes

Ethnic differences in the sex/safe sex and magnitude of problem/concern subcategorizes were attributed to levels of knowledge, insufficient information, and individuals' perception of themselves at high risk for contracting AIDS. Different responses to the quarantine/isolation questions were attributed to higher levels of tolerance as a result of greater cultural and social proximity to the disease and sensitivity of the risk of HIV infection.

Simplistic understanding and general assumptions may interfere when comparing behaviors and attitudes of one ethnic group with another. Johnson suggested that when analyzing attitudes among ethnic groups, "the variables that should be targeted for intervention differ as a function of whether comparisons are employed between or within ethnic groups" (Johnson, 1993). Differences among ethnic groups and in the present study in the Kinnick and DiIorio studies may indicate changes in knowledge and attitudes over time (Johnson, 1993).

Responses to the quarantine/isolation questions suggest that African-Americans approach the AIDS epidemic differently. Because HIV infection has risen significantly among African-Americans, perhaps the differences among respondents of different ethnic groups relate more to social and cultural differences and the impact of AIDS on their family, community, and neighborhood. Tolerance to AIDS patients by African-Americans may be attributed to their association with racial isolation and cultural sensitivity. Another case study reiterates attitude foundations as follows:

> Attitudes towards seropositive people, or at least insofar as such attitudes can be comprehended through a normative framework of social interactions, were also related to socio-demographic variables. Although the differences were slight, tolerance was greater when respondents were young, had a level of education higher than or equal to the baccalaureate or were a high socio-professional level. Undoubtedly, this higher level of tolerance was due to the greater cultural and social proximity to the disease. Tolerance was also greater in people whose behavior made them more sensitive to the risk of HIV infection, i.e. people with multiple sex partners and those who had undergone an AIDS screening test (Spira, Bajos, and the ACSF Group, 1994, p. 228).

For example, African-American student-athletes were more likely to disagree that people with AIDS should not be allowed to work in public places and that they would not live with someone who has AIDS.

Ethnic Differences among Behavior

Lower level of knowledge, increased perceived susceptibility, and possibly the level of sexual permissiveness and number of social forces contributed to differences among ethnic groups. Diclemente, Boyer, and Morals (1988) concluded that African-Americans and other ethnic groups "may be at increased risk for AIDS transmission as a consequence of risky sexual practices due to insufficient

information." However, Johnson determined that the overall pattern of data collected relative to certain risky sexual behaviors and lack of knowledge on HIV transmission was among African-American males and not African-American females. For example, white athletes were more likely to agree to discussing safe sex, reducing partners, and abstaining from sexual activity if infected. Additionally, highly significant differences results showed that white athletes were more likely to disagree that they were concerned that they may have contracted the AIDS virus from a sexual partner.

Significant differences among ethnic groups could be attributed to "the knowledge and behavior factors that discriminate between African-Americans and whites are different from the factors that discriminate between 'high risk' and 'low risk' groups within the African-American population" (Johnson, 1993). However, the correlation between level of knowledge and behavior, according to Thomas (1989), suggests that lack of knowledge is associated with risky sexual behaviors among African-Americans. African-American athletes' concern to obtain a blood test and their scores on magnitude of problem and concern could be attributed to lower levels of knowledge. Diclemente, Zorn, and Temoshook (1989) determined that African-Americans, overall, had lower AIDS-related knowledge, and level of knowledge has been significantly correlated with an increased perception of personal susceptibility. Additionally, Spira, Bajos, and the ACSF (1994) discussed a study of premarital sexual standards among blacks and whites in the 1960's by Ira Reiss, who found "that the sexual permissiveness of white males could be affected by a number of social forces (e.g., religion), but the black male was influenced by none of them."

Ethnic Differences among Sport-Specific Attitudes and Knowledge Source

African-American student-athletes were more likely to agree that condoms should be dispensed in the training room. A 1979 National Survey of Young Men indicated that African-American males were more likely to use condoms during their most recent sexual intercourse (Johnson, 1993).

African-American athletes were more likely to agree that they had received AIDS education in college. Contrary to DiIorio's study, African-American college students' AIDS education was deficient at the high school and college level. Perhaps increased cases and AIDS awareness in the black community has made African-American athletes more attentive to AIDS messages. Additionally, the improvement of AIDS messages that are culturally sensitive could also be a factor. The number of sources did not vary by academic year and ethnicity.

Assessment of traditional beliefs may be essential to understanding the meaning of AIDS and social and work-related relationships among different cultural and ethnic groups as well as sport-specific attitudes. DiIorio (1993) recommended that "knowing the basis of beliefs about the cause, transmission, and treatment of AIDS can be useful in directing educational efforts to dispel misinformation as well as to foster correct information among culturally diverse groups." Evaluation and intervention strategies that are ethnically and culturally sensitive are essential when comparing behaviors and attitudes of one student-athlete ethnic group with another. Another article reiterates the need for careful research among ethnic and cultural groups as follows:

The sexuality of black and white men just tends to take different forms, and neither group has any more self-control or moral heroism than the other. It is in the area of black sexual behavior, and black male sexuality in particular, that folk beliefs are

abundant but empirical facts few. Yet public policy, sex education and therapeutic programs to deal with the sex-related problems of black people cannot be developed to fit their peculiar needs until we know the nature and dynamics of black sexual behavior. Thus, it is incumbent upon researchers to throw some light on an area enmeshed in undocumented myths and stereotypes (Kimmel, 1995, p. 376).

University Differences among Knowledge, Attitudes, and Behavior

A. Knowledge.

This study concluded that the distribution of African-American student-athletes among universities played a role in the current level of knowledge among universities.

B. Attitude

Differences among universities with AIDS-related attitudes was attributed to the distribution of African-American student-athletes among universities.

C. Behavior

Differences among academic year, ethnicity, and university with AIDS-related knowledge, attitude, and behaviors could be the result of the significant differences in the distribution of African-American student-athletes among universities [Figure 5 and Figure 6]. The socioeconomic status of students and parents, geographic location, urban and rural environments, and religion were not assessed, and may have played a role in the level of knowledge, attitudes, and behaviors of the sample population studied. Some of the factors which may have contributed to observed associations between some responses and academic year, ethnicity, and universities included eligibility difficulties, medical hardships, willingness to participate, availability of seniors, and non-scholarship participation.

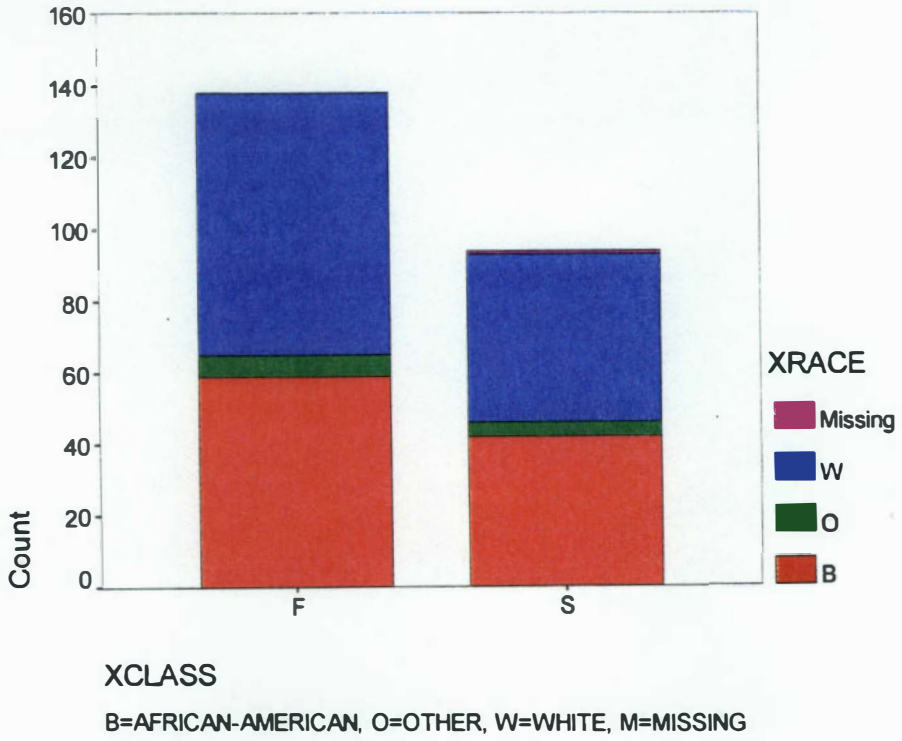

FIGURE 5. ETHNICITY DIFFERENCES ACADEMIC

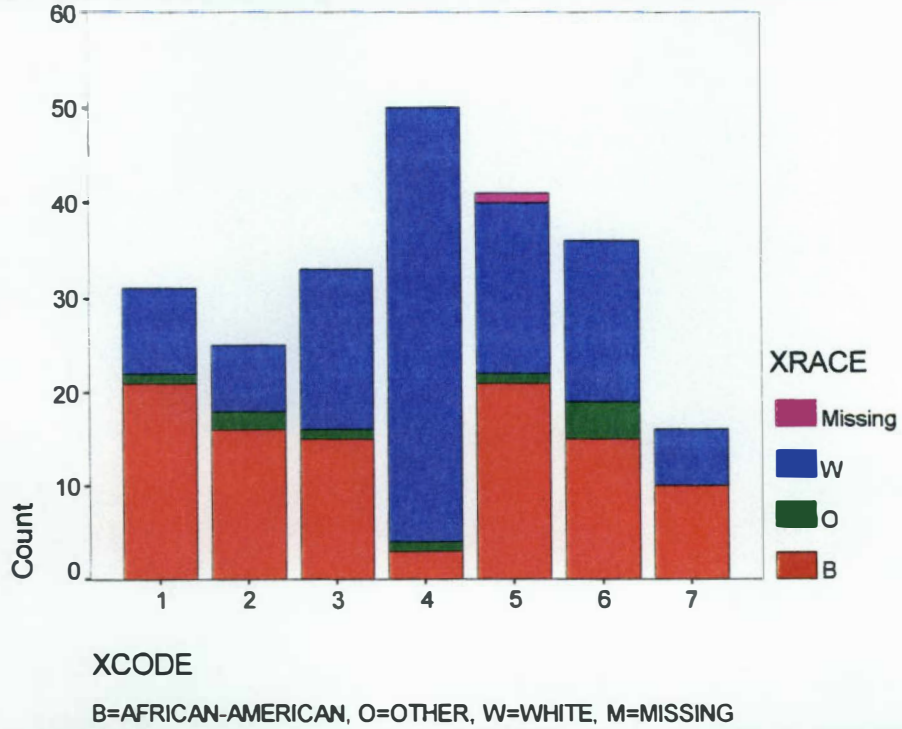

FIGURE 6. ETHNICITY DIFFERENCES AMONG UNIVERSITIES

D. Sport-Specific

Respondents from different universities varied on responses to four items, including: participation exclusion of HIV-positive student-athletes, mandatory HIV testing of student-athletes, disclosure of an HIV-positive student-athlete's status, and condom dispensing in the training room. These differences may be attributed to the distribution of ethnicity among universities, informational sources, and religious implications.

E. Knowledge Source

University differences about the preferred way to learn about HIV/AIDS could be attributed to religious, social, and professional relationships with their church, family, and medical staff. Geographical information was not obtained but could be a contributing factor about locality of relationships if the student-athlete was in-state or out-of state classification. An emphasis on religion in the southeastern area, commonly referred to as the "Bible Belt," could contribute to the selection of source as well as other attitude foundations. Bell, Feraios, and Bryan (1990) results indicated that "knowledge about AIDS appeared to be enhanced by the number of sources these adolescents used to get their information about AIDS."

Present Study in Comparison to Previous Studies

Introduction

Information on previous studies, DiIorio (1993) [Table 18] and Kinnick (1989) [Table 19 and Table 20], was used to evaluate the presence of any significant differences between the present study and between studies of the general college student population. There were three significant differences between the present study and previous studies concerning level of knowledge. Highly significant differences in

TABLE 18. AIDS *Knowledge* Among College Students (DiIorio Study: N=689)

Item	True %	False %
KNOWLEDGE: WHAT IS AIDS?		
AIDS is a life-threatening disease.	99.1	0.9
AIDS is not a serious problem, it is like having a cold.	0.9	99.1
AIDS is a disease caused by a virus.	98.7	1.3
AIDS is a medical condition in which your body cannot fight off diseases.	98.3	1.7
AIDS is caused by the same virus that causes herpes.	6.9	93.1
KNOWLEDGE: HOW CAN YOU GET AIDS?		
You can get infected with the virus that causes AIDS by sharing a needle with a drug user who has the disease.	100.0	0.0
Stress causes AIDS.	0.4	99.6
You can get AIDS from hugging someone with the disease.	0.6	99.4
A pregnant woman who has the virus that causes AIDS can infect her unborn baby with the virus.	99.3	0.7
You can get AIDS by shaking hands with someone who has the disease.	0.7	99.3
You can get AIDS by using the comb or brush of someone with AIDS.	1.6	98.4
You can get AIDS by being around someone with the disease.	2.0	98.0
Having sexual intercourse with someone who has AIDS is one way of getting it.	97.8	2.2
You can get AIDS from food handled by someone who has the disease.	8.5	91.5
Receiving a blood transfusion can infect a person with the virus that causes AIDS.	88.7	11.3
You can get AIDS when you give blood.	15.9	84.1

TABLE 18 (continued).

Item	True %	False %
KNOWLEDGE: HOW CAN YOU PREVENT AIDS?		
Using a condom during sex can lower the risk of becoming infected with the virus that causes AIDS.	99.4	0.6
You can avoid getting AIDS by exercising regularly.	1.3	98.7
There is a vaccine available that protects a person from getting AIDS.	1.8	98.2
KNOWLEDGE: HOW CAN AIDS BE TREATED?		
AIDS can be cured, if treated early.	2.3	97.7
There is a blood test that shows the presence of the AIDS virus.	94.6	5.4
At the present time there is no cure for AIDS.	89.1	10.9
Some drugs have been developed for the treatment of AIDS.	84.6	15.4
KNOWLEDGE: WHO GETS AIDS?		
Only gay men can get AIDS.	0.4	99.6
Anybody can get AIDS.	95.8	4.2
AIDS cannot be transmitted from women to men.	12.1	87.9
Lesbians are at high risk for getting AIDS.	37.5	62.5
KNOWLEDGE: HOW DOES AIDS AFFECT PEOPLE?		
People who get AIDS usually die from the disease.	92.0	8.0
A person with AIDS can look and feel healthy.	90.9	9.1
People with AIDS usually have other diseases as a result of AIDS.	85.1	14.9
The virus that causes AIDS can damage the brain.	48.4	51.6

TABLE 19. AIDS Related *Attitudes* Among College Students (Kinnick Study: N=834)

Item	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %
ATTITUDES: QUARANTINE/ISOLATION				
Persons with AIDS should not be allowed to work in public places.	12	25	40	23
I would not live with someone who has AIDS.	38	25	29	28
Persons with AIDS should be treated in a separate hospital.	17	27	40	17
No one should be forced to submit to a blood test for AIDS no matter what the purpose.	8	13	37	42
Physicians should be required to report people with AIDS to state health departments.	41	35	17	7
ATTITUDES: MAGNITUDE OF PROBLEM/CONCERN				
I am not concerned about contracting the virus.	15	23	34	28
I believe AIDS is the most critical health problem on college campuses.	23	32	39	6
People are more concerned about AIDS than they need to be.	7	11	32	50
Medical science will find a cure for AIDS in the next 5 years.	4	33	47	16
In my opinion, AIDS is not going to spread very rapidly in the general population.	3	12	41	44
I doubt that anyone I know will contract AIDS.	6	26	52	16

TABLE 19 (continued).

Item	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %
ATTITUDES: EDUCATION/KNOWLEDGE				
Knowledge of AIDS will result in safer sexual practices.	61	31	5	2
I fear receiving a blood transfusion because of AIDS.	38	38	11	4
I would like to learn more about AIDS and how it is transmitted.	40	50	8	2
Most people know where to go to obtain information about AIDS.	4	14	51	31
Most people hesitate to ask questions about AIDS for fear of being accused of having AIDS.	21	46	26	14
I believe that AIDS education should be provided in the public schools.	55	40	3	1
ATTITUDES: SEX/SAFER SEX				
Persons with AIDS should abstain from sex.	69	20	9	3
I am concerned that I may have contracted the AIDS virus from a sexual partner.	4	10	19	67
It is important to discuss safe sex with my partner.	60	34	3	3
I think it is important to reduce the number of one's sex partners.	57	33	8	2

TABLE 20. AIDS-Related *Behavior* Among College Students (Kinnick Study: N=834)

Item	Yes %	No %
BEHAVIOR: EFFORTS TO LEARN MORE		
I have viewed a TV program on AIDS.	68.0	31.0
I have had discussions about AIDS with my friends.	76.0	22.0
I have made special efforts to obtain knowledge about AIDS.	38.0	58.0
I have attended a lecture/seminar/workshop on AIDS.	13.0	84.0
BEHAVIOR: SOCIAL AND WORK-RELATED RELATIONSHIPS		
I am more selective in choosing a dating partner because of my concern about contracting AIDS.	46.0	22.0
I would not date someone if I knew they had multiple sexual partners.	64.0	25.0
Concern about contracting AIDS has changed my sexual behavior.	30.0	34.0
Before engaging in intercourse with a new partner, I would discuss the issue of AIDS.	66.0	20.0
If I had AIDS, I would inform my partner.	92.0	2.0
If I had been exposed to AIDS, I would change my sexual behavior.	90.0	3.0
If I had AIDS, I would limit my sexual activity.	92.0	2.0
If I knew I had AIDS, I would abstain from intercourse.	88.0	6.0
I have increased my use of condoms because of AIDS.	15.0	37.0
Because of my concern about AIDS, I will obtain an AIDS blood test.	21.0	57.0
I touch people less because of a fear of contracting AIDS.	7.0	89.0
I would move if I discovered the person I was living with had AIDS.	42.0	46.0
I would refuse to work with a person who has AIDS.	21.0	73.0
If I knew someone who had AIDS, I would have absolutely no contact with them.	22.0	74.0

responses between the present and previous studies were indicated for 19 out of the 21 attitude items. There were nine indications of relationships between present and previous responses.

A. Knowledge.

The results of this study of 232 male, college football student-athletes enrolled at seven universities in the Southeastern Conference were compared to the results of a 1993 DiIorio study of 689 single college freshmen, 51% male, enrolled at three private institutions in a high southeastern metropolitan area. Using chi-square analysis, tests for association between responses to the knowledge items in the DiIorio study and the present study were made. The athletes were more likely to agree that you can get AIDS when you give blood ($p<.05$) [Table 21]. The athletes were more likely to disagree with the statements that using a condom during sex can lower the risk of becoming infected with the virus that causes AIDS ($p<.05$) and that people with AIDS usually have other diseases as result of AIDS ($p<.05$).

The misconception that many athletes have concerning blood donation appears to derive from a lack of knowledge regarding the risk involved with donating (32% answered incorrectly) versus receiving blood (8.6% answered incorrectly). A possible explanation regarding their doubts about condom effectiveness may rest on information that athletes may have encountered in the media about the ineffectiveness of condoms to act as an effective barrier against the virus. The misconception that many athletes have concerning AIDS and other diseases might be from a lack of understanding that HIV-infected individuals suffer and die from opportunistic infections as a result of acquired immunodeficiency virus syndrome.

TABLE 21. AIDS *Knowledge* Among College Students - Whited/DiIorio Comparison

Item	True		False		Chi
	W #	D #	W #	D #	Square
You can get AIDS when you give blood..	72	110	159	579	25.199*
Using a condom during sex can lower the risk of becoming infected with the virus that causes AIDS..	221	685	9	4	13.732*
People with AIDS usually have other diseases as result of AIDS..	171	586	61	103	15.260*

W = Whited Study (n_w = 232), D = DiIorio Study (n_d = 689)

* Significant at < .05, **Significant at < .01, ***Significant at < .001

B. Attitudes.

Results of the present study were compared to the results of a 1989 Kinnick study of 834 students, 42% male, enrolled at five colleges and universities in Colorado and Wyoming. Using chi-square analysis, tests for association between responses to the attitude items in the Kinnick study and the present study were made. Highly significant differences were indicated for 19 out of the 21 attitude items [Table 22]. The athletes had a tendency to disagree more with the quarantine/isolation items. Both subject groups demonstrated an awareness of the magnitude of the problem and expressed concern about HIV infections and AIDS. The Kinnick respondents expressed a need for additional education for themselves and others as well as acknowledging the issue of source availability. The present study's respondents were more likely to disagree with items in the sex/safer sex subcategory, including that if they had AIDS, they would reduce sex partners and/or abstain from sexual activity .

Significant differences between the present study with athletes and the Kinnick (1989) and DiIorio (1993) studies concerning reporting HIV cases and isolation and quarantine of HIV-infected individuals and AIDS patients could be attributed to the increased AIDS awareness in educational institutions, media, and organizations such as NCAA over the period of time between the first study (1989) and the present one. For example, Kinnick and DiIorio respondents were more likely to agree that they would not live with someone who had AIDS. The respondents in the present study were more likely to disagree that people with AIDS should be treated in separate hospitals. Significant differences between athletes in the present study and the Kinnick (1989) and DiIorio (1993) respondents with incidents of AIDS educational exposure may be a result of the passage of time and an increased awareness of AIDS in the media, NCAA, and sports medicine.

TABLE 22. AIDS Related *Attitudes* Among College Students - Whited/Kinnick Comparison

Item	Strongly — Agree —		— Agree —		Strongly – Disagree –		– Disagree –		Chi Square
	W #	K #	W #	K #	W #	K #	W #	K #	
No one should be forced to submit to a blood test for AIDS no matter what the purpose.	19	67	55	108	49	350	108	309	39.1***
Persons with AIDS should be treated in a separate hospital.	28	142	61	225	24	142	119	337	13.1***
Physicians should report people with AIDS to state health departments	62	342	111	292	12	58	46	142	19.4***
I would not live with someone who has AIDS.	58	317	77	208	18	67	79	242	14.9***
Persons with AIDS should not be allowed to work in public places.	18	100	53	209	29	192	132	337	24.3***
People are more concerned about AIDS than they need to be.	7	58	19	92	109	417	97	267	11.5**
I believe AIDS is the most critical health problem on college campuses.	72	192	85	227	5	50	69	325	18.7***
I doubt that anyone I know will contact AIDS.	4	50	28	217	64	133	136	434	36.7***
I am not concerned about contracting the AIDs virus.	16	125	60	192	81	233	75	284	12.8**
Medical science will find a cure for AIDS in the next 5 years.	13	33	65	275	29	133	124	392	5.5*
In my opinion, AIDs is not going to spread very rapidly in the general population.	4	25	24	100	85	367	119	342	8.3**
I am concerned that I may have contracted the AIDS virus from a sexual partner.	11	33	27	83	127	559	67	158	13.5***
It is important to discuss safe sex with my partner.	120	500	94	284	3	25	15	25	12.1**
I think it is important to reduce the number of one's sex partners.	100	475	107	275	2	17	19	67	16.7***
Most people hesitate to ask questions about AIDS for fear of being accused of having AIDS.	28	175	116	384	11	117	77	217	24.7***
I would like to learn more about AIDS and how it is transmitted	56	333	140	417	6	17	30	67	21.2***
Most people know where to go to obtain information about AIDS.	21	33	100	117	15	259	96	425	131***
I believe that AIDS education should be provided in the public schools.	114	459	105	334	4	8	9	25	3.72*
I fear receiving a blood transfusion because of AIDS.	59	317	103	317	8	33	62	92	38***
Knowledge of AIDS will result in safer sexual practices.	124	509	95	259	3	17	10	42	7.79**

W = Whited Study (n_w = 232), K = Kinnick Study (n_k = 834)

C. Behavior.

The results of the present study were compared to the results of the 1989 Kinnick study of 834 students, 42% male, enrolled at five colleges and universities in Colorado and Wyoming. Using chi-square analysis, tests for association between responses to the behavior items in the Kinnick study and those in the present study were made. The athletes were more likely to agree that they had attended a lecture/seminar/workshop on AIDS ($p<.01$) and that they had viewed a TV program on AIDS ($p<.05$) [Table 23]. The athletes were more likely to disagree that if they had been exposed to AIDS, they would change their sexual behavior ($p<.05$); that, if they knew that they had AIDS, they would abstain from intercourse ($p<.05$); that, if they had AIDS, they would inform their partner ($p<.05$); and that, if they had AIDS ($p<.05$), they would limit their sexual activity ($p<.05$). The athletes were more likely to agree that, because of their concern about AIDS, they will obtain an AIDS blood test ($p<.05$) and that they have increased their use of condoms because of AIDS ($p<.01$).

Differences among ethnic groups and between athletes and non-athletes concerning informing their partner, discussing safe sex, limiting their sexual activity and behavior, and abstaining from sexual activity if they had been infected or exposed to HIV appear to derive from their lack of knowledge and their unhealthy lifestyle behaviors.

Previous Studies of Athlete/Non-Athlete Comparisons

Roscoe and Krueger's study (1990) indicated "that those subjects who reported having a new partner within the last three months were no less knowledgeable about AIDS, but worried more about contracting it, asked their partners fewer questions regarding past sexual history and health practices, and used condoms less frequently

TABLE 23. AIDS-Related *Behavior* Among College Students - Whited/Kinnick Comparison

Item	— Yes —		— No —		Chi Square
	W %	K %	W %	K %	
I have attended a lecture/seminar/workshop on AIDS.	119	108	112	701	153.4**
I have viewed a TV progrom on AIDS.	202	567	29	258	31.95*
If I had been exposed to AIDS, I would change my sexual behavior.	204	751	25	25	22.15*
If I knew I had AIDS, I would abstain from intercourse.	189	734	42	50	30.16*
If I had AIDS, I would inform my partner.	207	767	23	17	36.56*
If I had AIDS, I would limit my sexual activity.	204	767	26	17	36.55*
Because of my concern about AIDS, I will obtain an AIDS blood test.	108	175	121	475	31.77*
I have increased by use of condums because of AIDS.	171	125	57	309	129.1**
Concern about contracting AIDS has changed my sexual behavior.	163	250	68	284	36.60*

W = Whited Study (n_w = 232), K = Kinnick Study (n_k = 834)

than students who were not involved in new relationships." Recent studies have shown that student-athletes have different lifestyles from their non-athlete counterparts, placing them at higher risk for certain health problems (Nattiv, 1996). This NCAA study determined that athletes had a greater number of sexual partners, engaged in less "safe" sex, and used contraception less frequently (Nattiv, 1996). Additionally, Nattiv (1996) reported that male student-athletes had significantly more high-risk behaviors than female student-athletes and that those who participated in contact sports, such as football, had significantly higher risk-taking behaviors than athletes in non-contact sports. Perhaps the differences among athletes and non-athletes in the social and work-related relationships subcategory could be attributed to "student-athletes that had one risk-taking behavior tended to be at higher risk for multiple risk-taking behaviors" (Nattiv, 1996). For example, Nattiv determined that student-athletes had a greater frequency and quantity of alcoholic beverage consumption in the off-season and higher reported incidence of binge drinking as well as increased frequency of sexually transmitted diseases (1996, 1991). With the increased frequency of drug testing for illegal recreational drugs and performance-enhancing drugs, alcohol consumption and sexually transmitted diseases appear to be the major health problems of athletes today. This finding could be attributed to qualitative and quantitative improvements of drug testing and discipline by institutions and the NCAA (Nattiv, 1991). The risk of being exposed to AIDS in using drugs such as non-IV drugs, alcohol, marijuana, and cocaine may "play a role in the transmission of the AIDS virus because their use during sex is likely to increase the odds that an individual will engage in risky sexual practices because these drugs lead to sexual uninhibitedness and poor judgment" (Johnson, 1993).

Many studies have been conducted concerning immune system suppression as a result of intense exercise. Competing in a collision sport, consuming large amounts of alcohol, partner sharing, sexually transmitted disease frequencies, and unsafe sex could result in a possible transmission and/or contraction of HIV. Anger, hostility, and violent behavior were reported in the Nattiv study, stating that athletes had greater incidents of fights over a 12-month period than their non-athlete counterparts (Nattiv, 1996). Inability to manage anger can destroy important supportive relationships with others as well as create greater psychological distress (Johnson, 1993). Johnson goes on to state that the breakdown of these relationships will reduce support system assistance, resulting in negative life events and unhealthy health practices. Most importantly, Johnson concluded that risky sexual behaviors, such as anal intercourse, having sex with prostitutes, and having multiple sex partners, "could be related to increased anger that results from the strained and unbalanced pattern of interactions with a partner or significant other. In other words, the intense angry reactions may be a marker or cue for deeper interpersonal problems which result in behaviors that may serve to create distance between two people involved in the relationship." (Johnson, 1993) With the increased incidence of HIV disease in the college population and the lifestyles of student-athletes, these variables should be evaluated.

Further Research

The second set of recommendations address the need for further study dealing with HIV and AIDS issues:

1. The three instruments used in this study were adequate. However, as more information is discovered and statistics change, revisions of the surveys for future

replications needs to be implemented. Furthermore, clarification of specific items, like condom effectiveness, needs to be incorporated.

2. This survey may be utilized for subsequent studies at the University of Tennessee as well as in the Southeastern Conference in order to document changes that occur over a period of time. In addition, the survey may be utilized in other university settings, such as college non-athlete counterparts and athletic department administrators, health care providers, and coaching staff, for comparison analyses.

3. Future studies incorporating comparison of additional demographic information, such as geographical information, religion, socioeconomic class, in/out of state classification, urban/rural clarification, sexual orientation, sport position, and family structure, would develop a far more thorough understanding of the subgroup student-athletes.

4. Self-administering the tests could decrease some basic assumptions and limitations.

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APPENDICES

APPENDIX A
INSTRUMENTS

AIDS KNOWLEDGE

Please circle T for True and F for False.

Survey Item	True	False
1. You can get infected with the virus that causes AIDS by sharing a needle with a drug user who has the disease.	T	F
2. Only gay men can get AIDS.	T	F
3. Stress causes AIDS.	T	F
4. Using a condom during sex can lower the risk of becoming infected with the virus that causes AIDS.	T	F
5. You can get AIDS from hugging someone with the disease.	T	F
6. A pregnant woman who has the virus that causes AIDS can infect her unborn baby with the virus.	T	F
7. You can get AIDS by shaking hands with someone who has the disease.	T	F
8. AIDS is a life-threatening disease.	T	F
9. AIDS is not a serious problem, it is like having a cold.	T	F
10. AIDS is a disease caused by a virus.	T	F
11. You can avoid getting AIDS by exercising regularly.	T	F
12. You can get AIDS by using the comb or brush of someone with AIDS.	T	F
13. AIDS is a medical condition in which your body cannot fight off diseases.	T	F
14. There is a vaccine available that protects a person from getting AIDS.	T	F
15. You can get AIDS by being around someone with the disease.	T	F
16. Having sexual intercourse with someone who has AIDS is one way of getting it.	T	F
17. AIDS can be cured, if treated early.	T	F
18. Anybody can get AIDS.	T	F

19. There is a blood test that shows the presence of the AIDS virus.	T	F
20. AIDS is caused by the same virus that causes herpes.	T	F
21. People who get AIDS usually die from the disease.	T	F
22. You can get AIDS from food handled by someone who has the disease.	T	F
23. A person who has AIDS can look and feel healthy.	T	F
24. At the present time there is no cure for AIDS.	T	F
25. Receiving a blood transfusion can infect a person with the virus that causes AIDS.	T	F
26. AIDS cannot be transmitted from women to men.	T	F
27. People with AIDS usually have other diseases as as result of AIDS.	T	F
28. Some drugs have been developed for the treatment of AIDS.	T	F
29. You can get AIDS when you give blood.	T	F
30. Lesbians are at high risk for getting AIDS.	T	F
31. The virus that causes AIDS can damage the brain.	T	F

AIDS RELATED ATTITUDES

Please circle the answer that best describes your opinion.

Survey Item	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Knowledge of AIDS will result in safer sexual practices.	SD	D	A	SA
2. Persons with AIDS should not be allowed to work in public places.	SD	D	A	SA
3. I fear receiving a blood transfusion because of AIDS.	SD	D	A	SA
4. I would not live with someone who has AIDS.	SD	D	A	SA

	Strongly Disagree	Disagree	Agree	Strongly Agree
5. Persons with AIDS should abstain from sex.	SD	D	A	SA
6. Persons with AIDS should be treated in a separate hospital.	SD	D	A	SA
7. I am concerned that I may have contracted the AIDS virus from a sexual partner.	SD	D	A	SA
8. It is important to discuss safe sex with my partner.	SD	D	A	SA
9. I am not concerned about contracting the AIDS virus.	SD	D	A	SA
10. I believe AIDS to be the most critical health problem on college campuses.	SD	D	A	SA
11. I think it is important to reduce the number of one's sex partners.	SD	D	A	SA
12. People are more concerned about AIDS than they need to be.	SD	D	A	SA
13. I would like to learn more about AIDS and how it is transmitted.	SD	D	A	SA
14. Most people know where to go to obtain information about AIDS.	SD	D	A	SA
15. Medical science will find a cure for AIDS in the next 5 years.	SD	D	A	SA
16. Most people hesitate to ask questions about AIDS for fear of being accused of having AIDS.	SD	D	A	SA
17. In my opinion, AIDS is not going to spread very rapidly in the general population.	SD	D	A	SA
18. I doubt that anyone I know will contract AIDS.	SD	D	A	SA
19. I believe that AIDS education should be provided in the public schools.	SD	D	A	SA
20. No one should be forced to submit to a blood test for AIDS no matter what the purpose.	SD	D	A	SA
21. Physicians should be required to report people with AIDS to state health departments.	SD	D	A	SA

AIDS RELATED BEHAVIOR

Please circle the answer that best describes your opinion.

Survey Item	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Concern about contracting AIDS has changed my sexual behavior.	SD	D	A	SA
2. I have increased my use of condoms because of AIDS.	SD	D	A	SA
3. Because of my concern about AIDS, I will obtain an AIDS blood test.	SD	D	A	SA
4. I touch people less because of a fear of contracting AIDS.	SD	D	A	SA
5. I would move if I discovered the person I was living with had AIDS.	SD	D	A	SA
6. If I had AIDS, I would limit my sexual activity.	SD	D	A	SA
7. I would not date someone if I knew they had multiple sexual partners.	SD	D	A	SA
8. If I knew I had AIDS, I would abstain from intercourse.	SD	D	A	SA
9. Before engaging in intercourse with a new partner, I would discuss the issue of AIDS.	SD	D	A	SA
10. If I had AIDS, I would inform my partner.	SD	D	A	SA
11. If I had been exposed to AIDS, I would change my sexual behavior.	SD	D	A	SA
12. If I knew someone who had AIDS, I would have absolutely no contact with them.	SD	D	A	SA
13. I have viewed a TV program on AIDS.	SD	D	A	SA
14. I have had discussions about AIDS with my friends.	SD	D	A	SA
15. I have made special efforts to obtain knowledge about AIDS.	SD	D	A	SA
16. I have attended a lecture/seminar/ workshop on AIDS.	SD	D	A	SA
17. I would refuse to work with a person who has AIDS.	SD	D	A	SA
18. I am more selective in choosing a dating partner because of my concern about contracting AIDS.	SD	D	A	SA

Please circle the appropriate answer for each question as honestly and accurately as possible.

SOCIODEMOGRAPHIC DATA

1. What class are you in?

   a. Freshmen
   b. Senior

2. How old are you?

   a. 18 years old
   b. 19 years old
   c. 20 years old
   d. 21 years old
   e. 22 years old

3. What is your race?

   a. Black
   b. White
   c. Native American or Alaskan Native
   d. Asian or Pacific Islander
   e. Hispanic or Latino

4. What is your marital status?

   a. Single
   b. Single, living with partner
   c. Married
   d. Divorced
   e. Widowed

Please circle the appropriate answer for each question as honestly and accurately as possible.

SPORT-SPECIFIC ATTITUDINAL SECTION

1. Do you feel that HIV infected student-athletes should be allowed to participate in intercollegiate athletics?

   a. Yes
   b. No
   c. Not sure

2. Do you feel that student-athletes should be required to take a HIV blood test?

   a. Yes
   b. No
   c. Not sure

3. Do you feel that athletic departments should offer the opportunity for student-athletes to receive a HIV blood test?

   a. Yes
   b. No
   c. Not sure

4. Do you feel that trainers, coaches, and players have the right to know who is HIV positive?

   a. Yes
   b. No
   c. Not sure

5. Do you feel that condoms should be provided or dispensed in the training room?

   a. Yes
   b. No
   c. Not sure

Please circle the appropriate answer for each question as honestly and accurately as possible.

OBTAINED KNOWLEDGE LIST

1. Have you been taught about HIV infection or AIDS in high school?

   a. Yes
   b. No
   c. Not sure

2. Have you been taught about HIV infection or AIDS in college?

   a. Yes
   b. No
   c. Not sure

3. From what source have you learned the <u>most</u> about HIV/AIDS?

   a. TV/Radio
   b. Scientific Journals
   c. Newspapers
   d. Magazines
   e. Team Physicians/Trainers

4. If you had a problem or fear about HIV infection or AIDS, which community resource would you turn to <u>first</u>?

   a. Church
   b. Team Physician
   c. Staff Trainer
   d. Planned Parenthood/Health Department
   e. Other

5. Do you feel that there is a need for more HIV/AIDS education among student-athletes?

   a. Yes
   b. No
   c. Not sure

6. What is your preferred way to learn about HIV/AIDS?

   a. Parents/Family
   b. Church
   c. Team Physician
   d. Head Athletic Trainer
   e. Reading materials/TV/Radio

Permission from Dr. Richard Keeling, American College Health Association, and the following authors:

AIDS-Related Knowledge Instrument:

DiIorio, Colleen., Parsons, Margaret, Lehr, Sally, Adame, Daniel, & Carlone, Joyce. (1993). Knowledge of AIDS and Safer Sex Practices Among College Freshmen. Public Health Nursing, 10(3), 159-165.

AIDS-Related Attitudes and Behaviors Instrument:

Kinnick, Bernard C., Smart, David W., Bell, Debra A., Blank, William R., Gray, Thomas R., & Schober, Jean L. (1989). An Assessment of AIDS-Related Knowledge, Attitudes, and Behaviors Among Selected College and University Students. AIDS & Public Policy Journal, 4(2), 112-119.

APPENDIX B
COVER/APPROVAL LETTER

Department of Athletics
The University of Tennessee

Neyland/Thompson
Sports Center
P.O. Box 15162
Knoxville TN 37901-5162

Telephone 615-974-1232

TO: Head Athletic Trainer

FROM: Jamie N. Whited
Assistant Trainer

SUBJECT: HIV/AIDS Research Investigation

DATE: August 7, 1995

After presenting my research proposal to the athletic trainers at the 1994 SEC Officials Physical Examination, the SEC Sports Medicine Committee approved the authorization for the research to be conducted along with Sue Stanley, Chair of the SEC Sportsmedicine Committee. The purpose of this investigation is to assess the level of knowledge of AIDS, attitudes toward AIDS, and risk behaviors related to HIV infection among freshmen and senior football student-athletes in the Southeastern Conference.

Enclosed are 75 seven-page surveys consisting of six sections, an informed consent form, and steps and procedures for administering the survey. The questions are moderately easy to answer and should not take any more than 25 minutes to complete. You have my assurance that the information that you provide in this survey will be kept anonymous. Only those colleges/institutions that request in writing will receive a copy of their own results. All colleges/institutions will receive a copy of the completed dissertation.

The benefit of this investigation is the opportunity to improve the student-athlete health care from the results of surveys through preventative and educational strategies concerning HIV/AIDS issues. A secondary purpose or benefit will be implemented, with the consent of the academic institution and athletic department, featuring an educational seminar for your team based upon your schools findings

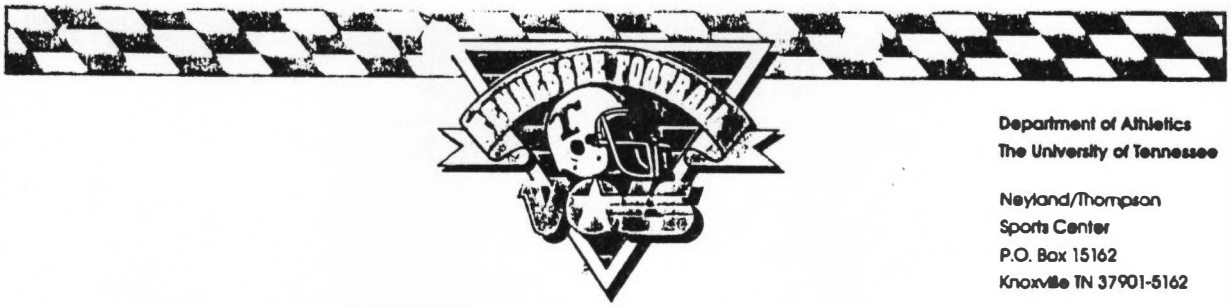
Since this is an extremely sensitive issue among some individuals, it is important that you administer the survey according to the procedures provided from a careprovider point of view. A copy of this investigation will be provided to the Centers for Disease Control, NCAA Sports & Sciences, and the American College Health Association for recognition of the Southeastern Conferences contribution and participation. We therefore request that you please administer and return the surveys in the enclosed, self-addressed, stamped envelope before August 30, 1995. If you have any questions about this research investigation or survey or want to have a copy of your institutions results, please contact me at my work (615) 974-1231/1900 FAX (615) 974-1259 or home (615) 688-4417.

Thank you for your cooperation and efforts in providing the best health care to all of our student-athletes.

Sincerely,

Jamie N. Whited

Jamie N. Whited
Assistant Trainer



Department of Athletics
The University of Tennessee

Neyland/Thompson
Sports Center
P.O. Box 15162
Knoxville TN 37901-5162

Telephone 615-974-1232

TO: HEAD ATHLETIC TRAINER

FROM: JAMIE N. WHITED
ASSISTANT TRAINER

SUBJECT: HIV/AIDS RESEARCH INVESTIGATION

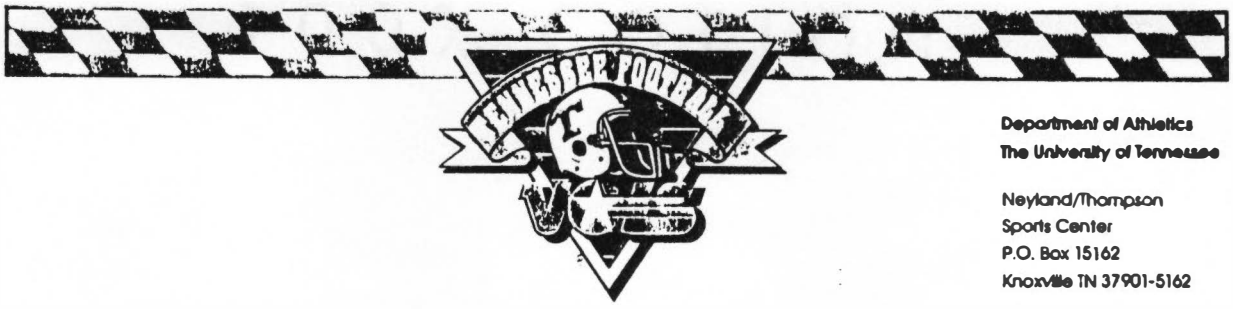
DATE: NOVEMBER 14, 1994

After presenting my research proposal to the athletic trainers at the 1994 SEC Officials Physical Examination, the SEC Commissioners Office approved the authorization for the research to be conducted along with Sue Stanley, Chair of SEC Sportsmedicine Committee. The purpose of this investigation is to assess the level of knowledge of AIDS, attitudes toward AIDS, risk behaviors related to HIV infection, and perceived suspectibility to AIDS among freshmen and senior football student-athletes in the Southeastern Conference.

Enclosed are 75 five-paged surveys consisting of five sections, an informed consent form, steps & procedures for administering the survey, and a copy of the letter from SEC Commissioners Office. The questions are moderately easy to answer and should not take any more than 45 minutes to complete. You have my assurance that the information that you provide in this survey will be kept anonymous. Only those colleges/institutions that request in writing will receive a copy of their own results. All colleges/institutions will receive a copy of the completed dissertation.

The benefit of this investigation is the opportunity to improve the student-athlete health care from the results of surveys through preventative and educational strategies concerning HIV/AIDS issues. A secondary purpose or benefit will be implemented, with the consent of the academic institution and athletic department, featuring an educational seminar for your team based upon your schools findings.

Since this is an extremely sensitive issue among some individuals, it is important that you administer the survey according to the procedures provided from a careprovider point of view. A copy of this investigation will be



Department of Athletics
The University of Tennessee

Neyland/Thompson
Sports Center
P.O. Box 15162
Knoxville TN 37901-5162

Telephone 615-974-1232

provided to the Centers for Disease Control, NCAA Sports & Sciences, and the American College Health Association for recognition of the Southeastern Conferences contribution and participation. We therefore request that you please administer and return the surveys in the enclosed, self-addressed, stamped envelope no later than the last day of Fall Semester or before December 19, 1994. If you have any questions about this research investigation or survey or want to have a copy of your institutions results, please contact me at my work (615) 974-1231/1900 FAX (615) 974-1259 or home (615) 688-4417.

Thank you for your cooperation and efforts in providing the best health care to all of our student-athletes.

Sincerely,

Jamie N. Whited
Assistant Trainer

APPENDIX C
ADMINISTRATION OF THE SURVEY: STEPS AND PROCEDURES

ADMINISTRATION OF THE SURVEY:

STEPS AND PROCEDURES

1. Prior to passing out the survey packets and pencils, please read the informed consent form to the freshmen and senior football student-athletes.

2. Pass out survey packets and pencils.

3. Remind student-athletes not to sign their name to any of the pages of the packet.

4. Have each student-athlete count to make sure that they have all pages of the survey.

5. Read the following directions to them:
    1. You are to complete all six sections of the survey as honestly and accurately as you can.
    2. Read each question and circle the appropriate answer.
    3. Read the directions under each of six sections prior to starting the section.
    4. If you have any questions, please come to the front of the room.
    5. After completing the survey, do not sigh your name or any other form of identity such as position or jersey number. (Repeat this sentence.)
    6. Place the survey on the table face down in the back of the room.

APPENDIX D
FACSIMILE 1/MAIL-OUT #2

THE UNIVERSITY OF TENNESSEE

Department of Athletics
P.O. Box 15016
Stokely Athletics Center
Knoxville, Tennessee 37901-5016

TO: **CHRIS PATRICK**

FROM: **JAMIE N. WHITED** JNW
ASSISTANT TRAINER FOR MEN'S ATHLETICS

DATE: **MAY 1, 1995**

Since the announcement by Greg Louganis pertaining to his HIV status, many important issues have arisen concerning HIV positive student-athletes. Lately, I have been researching the legal issues concerning the exclusion, screening, and treatment of HIV positive athletes. In the course of my research within the legal system, with the assistance of Dr. Scott Burris, author of AIDS Law Today, I have discovered the following:

1. Involuntary exclusion of HIV positive athletes from participation is prohibited.

2. Unauthorized disclosure of HIV status by team physicians to third parties without patient permission is illegal.

3. Treatment options for immunosuppressed student-athletes corresponds with currently used treatment options for other health conditions, such as the use of inhalers for asthmatic student-athletes.

With my dissertation, I will be including in my recommendations the legal obligations of colleges and universities concerning HIV positive athletes. Last semester, I mailed out surveys on HIV-Related Knowledge, Perceived Risks, and Attitudes to all SEC's colleges and universities. I have received a 70% response rate and wish to gather more responses in order to have the best possible representative sample. Therefore, I am asking for your assistance.

If you do not have access to your 1994-1995 seniors, please use the 1995-1996 senior population. If your student-athletes have already left for the summer and you do not have access to them throughout the summer, please consider having your student-athletes complete the 20 minute survey during August. Please check the appropriate response and fax it to Jamie N. Whited, (615) 974-1259. Thank you for your time in assisting me in providing the best health care to our student-athletes.

_____**Will complete surveys this month.**
_____**Will complete surveys this summer.**
_____**Will complete surveys this August/September.**

_____**Have instrument package.**
_____**Need another instrument package.**

Research of this nature has been performed in the NFL but not yet on the Intercollegiate level. This information will be helpful to Centers for Disease Control, American College Health Association, and NCAA. Additionally, the results will aid high schools and colleges/universities in determining if these students are obtaining the proper information concerning HIV.

APPENDIX E
FACSIMILE 2/MAIL-OUT #3

UNIVERSITY OF TENNESSEE DEPARTMENT OF ATHLETICS
ADMINISTRATION
STOKELY ATHLETICS CENTER
1720 VOLUNTEER BLVD
P.O. BOX 15016
KNOXVILLE, TN
37901-5016

ATHLETIC DIRECTOR
615/974-1224
FAX 615/974-2060
FACILITIES
615/974-1217
OPERATIONS
615/974-1216
COMPLIANCE
615/974-3871

TO: PAUL MOCK

FROM: JAMIE N. WHITED
ASSOCIATE ATHLETIC TRAINER FOR MEN'S ATHLETICS

DATE: APRIL 16, 1996

Since the announcement by Greg Louganis, Tommy Morrison, and other athletes pertaining to their HIV status, many important issues have arisen concerning HIV positive student-athletes. Previously, I had been researching the legal issues concerning the exclusion and screening of HIV positive athletes. Presently, I have been researching treatment of HIV positive athletes as well as educational strategies that can be implemented in order to prevent transmission among intercollegiate athletics.

During the 1st week of May last year, I faxed you a letter in reference to participation in the study. During the first week of August, I mailed the second survey package, two day postage, that included surveys on HIV-Related Knowledge, Perceived Risks, and Attitudes as you requested and "X" on the returned fax from you in reference to the first mailing. I have received a 70% response rate and wish to gather more responses in order to have the best possible representative sample. Therefore, I am asking you for your assistance.

If you do not have access to your 1995-1996 seniors, please use the 1996-1997 senior population. Please review the appropriate response and leave a message on my voice mail (423) 688-4417 by Friday, April 19. Thank you for your time in assisting me in providing the best health care for our student-athletes.

____ Have completed surveys and will return the package.
____ Need another instrument package.
____ I am unable to go forward with participation at this time.

Research of this nature has been performed in the NFL but not yet on the intercollegiate level. This information will be helpful to Centers for Disease Control, American College Health Association, and NCAA. Additionally, the results will aid high schools and colleges/universities in determining if these students are obtaining the proper information concerning HIV.

APPENDIX F
INFORMED CONSENT

INFORMED CONSENT

PROJECT TITLE: Assessing the HIV/AIDS Knowledge, Attitudes, and Behaviors of Freshmen and Senior Football Student-Athletes in the Southeastern Conference.

This is a research investigation that is being conducted by athletic departments within the Southeastern Conference. The purpose of this investigation is to assess the level of knowledge about AIDS, attitudes toward AIDS, and risk behaviors related to HIV infection among freshmen and senior football student-athletes in the Southeastern Conference.

The benefits of this investigation is the opportunity to improve student-athlete health care from the results of the surveys through preventative and educational strategies concerning HIV/AIDS issues. There are no questions concerning personal issues such as sexual orientation or sexual history.

Do not sign your name on any of the pages of the survey. After finishing the survey, you are to place it on the table in the back of the room face down. The data will be organized, classified, stored, and scored in such a manner that the subjects will not be identifiable. It will take approximately 25 minutes to finish the survey.

All student-athletes can receive a copy of their school results upon request to their head athletic trainer. A secondary purpose or benefit will be implemented, with the consent of the academic institution and athletic department, featuring an educational seminar for your team based upon your school findings.

Your participation is strictly voluntary, You may refuse, withdraw, or discontinue to participate at any time without penalty or loss of benefits. Completing the survey constitutes your consent to participate.

VITA

Jamie Naughright Whited was born and raised in Hackettstown, New Jersey, a small colonial town nestled between the Delaware River Gap and New York City. Hackettstown is one of the last towns true to the state's notoriety as the "Garden State's finest" and is home of the M&M Mars Candy Factory. After obtaining her high school diploma, this first Naughright girl in sixty-five years and first Naughright to go to college, ventured off to the "hills of Tennessee" under the advice of her home girl, Jennifer Eckroth, and with the major support of her parents. She took a taxi cab from McGhee Tyson Airport to Humes Hall in her pursuit of academic success.

During her sophomore year, she sustained a serious knee injury, "Unhappy Triad," while playing intramural flag football and headed to the "Great White North" for surgery. After three knee surgeries and one quarter off from school, she headed back on a jet plane to the South and its challenges. She eventually changed her major to Exercise Physiology and began to work as a student athletic trainer for the University of Tennessee Lady Vols. After one year, she transferred to the University of Tennessee Volunteers, where she worked for two years with the "unbeatable and unstoppable" 1990 men's tennis team (first team to go undefeated in a regular season) and football team while finishing her B.S. (1991). While on a two-year graduate assistantship, she earned her Masters in Health Education (1992), volunteered for the Knoxville Volunteer Rescue Squad, completed her athletic training certification, was promoted to an internship, began her doctoral work, and married John M. Whited III. In the summer of 1993, she was hired on to the Volunteers Medical Staff as Assistant Trainer.

She dedicated her doctoral work to HIV in athletics after working with AIDS patients from 1986-1991 in New Jersey. The youngest member of a family that included two older brothers, this "tomboy" attributes her success in a male-dominated profession and

environment to her motivation to tackle controversial issues and their challenges and her ability to strategically move like a man but still maintain her femininity. She feels that her fast, Jersey childhood, her oldest brother's lifestyle of "living and dying by the sword," her German heritage, and "blue collar" upbringing prepared her to shape her vision and to bring it into fruition.

It is extremely important to her as a professional and as a personal mission and career objective to educate her student-athletes on HIV/AIDS education and awareness. She would never want any of her student-athletes or their families to experience the suffering, loss, and social stigma and prejudices that her family and she had to endure the past two years. With those strong motives, she assisted the Athletics Department in designing the "Positive Pathways Program" that provides a holistic health care for student-athletes and includes a referral, educational, and community-service-based components. Her programs and dissertation have appeared in USA Today, Sports South, and Athletic Management Magazine. Her proudest accomplishments are serving on the Metropolitan Drug Commission and the Red Ribbon Campaign Committee, participating in the "Champions for Choices" program, hosting the "Tim Kerin Red Ribbon Recognition Banquet" and the 1995 NCAA Track and Field Championships in Knoxville, developing educational programs such as HIV Panel Discussion and Student-Athlete Sexual Assault Forum, and receiving the 1996 community service pin from AIDS Response Knoxville.

Within the past year, she has been promoted to Associate Trainer and Director of Health and Wellness and was selected to work as an athletic trainer for the 1996 Olympic Trials and Games in Track and Field, in Atlanta. In being different, she hopes to actively participate in making a difference at the University of Tennessee Athletics Department. Her career objectives are to develop a holistic health care delivery system

for HIV-positive student-athletes, publish, and possibly pursue a law degree, ultimately becoming an athletics director just like the "Ice Man." Until then, she will attempt "to steer" her personal and professional missions with commitment, trust, and loyalty and act accordingly all in the name of the Volunteer spirit and institution.